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Environmental Impact Report

San Francisco Federal Savings and Loan Headquarters

DRAFT
EE 80.339

Publication Date: December 18, 1981
Public Comment Period: December 18, 1981 through January 21, 1982
Public Hearing Date: January 21, 1982

Written comments should be sent to the Environmental Review Officer, 45 Hyde Street, San Francisco, CA 94102

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A. INTRODUCTION AND SUMMARY

A. INTRODUCTION

Pursuant to Section 15080 of the California Environmental Quality Act (CEQA) and Guideline ER-0-7 of the Office of Environmental Review, an Initial Study (June 5, 1981) was prepared for the proposed San Francisco Federal Savings and Loan Headquarters Building project. In accordance with Section 15141 (e) and (f) of the CEQA guidelines, this Environmental Impact Report (EIR) focuses on only those effects which were considered to be potentially significant by the Office of Environmental Review and so indicated in the Initial Study (see Appendix A, p. 146.) Based on the Initial Study, potential effects of the proposed project on the the following environmental issues have been determined to be insignificant or have been mitigated to a level of insignificance, and therefore, will not be addressed in the EIR: land use compatibility; obstruction of views from major vista points; project operational noise; public services and utilities demanded by the project; biology; topography, geology and soils; water consumption; hazardous uses and health hazards; and subsurface cultural resources. Reasons for determining the effects of the proposed project insignificant in these areas are contained in Appendix A.

B. SUMMARY

PROJECT DESCRIPTION

San Francisco Federal Savings and Loan Association, a San Francisco based corporation, proposes to construct new headquarters offices in Downtown San Francisco to provide efficient, functional space for its operations currently located in four of the five existing buildings on the site, and to provide additional space for anticipated growth of the company over the next

ten years. San Francisco Federal also intends to develop the project site into a unified design theme that would identify its headquarters.

The project site is located at the southeast corner of the intersection of Post and Kearny Sts., opposite the site of the Crocker National Bank Headquarters Tower and Lick Place Galleria, which are currently under construction (see Figure 1, p. 10). The site encompasses Lots 7, 8, 9, 10 and 11 of Assessor's Block 311, (see Figure 2, p. 11) and contains the following buildings: 30 Kearny St., 46 Kearny St., 54 Kearny St., 60 Kearny St., and 79 Post St.

The proposed 16-story office building would be about 230 ft. high and contain approximately 199,100 gross sq. ft. of floor area, exclusive of one basement floor and one mechanical penthouse. The ground floor would contain a savings branch of 5,000 sq. ft. and approximately 1,600 sq. ft. of retail commercial space. The basement level would contain an estimated 23 off-street, long-term parking spaces, one off-street loading bay and areas for mechanical equipment. The portion of the building located on the southernmost part of the site would be stepped back at the top along the width of Maiden Lane to terminate the view corridor extending from Union Square down Maiden Lane to Kearny St. (see Figure 5, p. 15).

The total construction period would be about 24 months, beginning with demolition of the existing five buildings located on the site. During the project construction San Francisco Federal Savings and Loan (S&L) would temporarily relocate its present employees and operations from the site to other offices in San Francisco. San Francisco Federal S&L would be the principal tenant of the new building, occupying about 25% of the total gross floor area proposed.

ENVIRONMENTAL EFFECTS

The project would include the demolition of five buildings. Two of the structures, the Maskey Building at 46 Kearny St. and the 60 Kearny Building, are identified on the City Planning Commission's list of Architecturally and/or Historically Important Buildings in the Downtown, and are rated "B" in

the Heritage Survey. The Maskey Building is rated "3" in the Department of City Planning's Architectural Inventory and the 60 Kearny St. Building is rated "1" in that survey. The Maskey Building is under consideration by the Landmarks Preservation Advisory Board for designation as a City landmark; this proposal is currently scheduled to be heard before the Planning Commission on January 28, 1982. The three remaining buildings on the project site are not on the Planning Commission's list, and have not been rated in the Heritage or the Planning Department's survey.

The project would comply with zoning, height, bulk dimensions, and floor area ratio (FAR) requirements of the City Planning Code and with the Interim Controls on bonus floor area. The project would be responsive to land use policies and objectives of the San Francisco Comprehensive Plan, except for the provision of 23 long-term parking spaces, which is discouraged in the Downtown Transportation Plan (Objective 1, Policy 4).

The number of ground-level retail establishments could be reduced from four to as few as one, depending on the number of tenants that would occupy the 1,600 sq. ft. of area proposed for retail uses. The project would retain the existing corner savings office use at the site.

The scale of the project would visually relate to the Mechanics' Institute, which borders the site on the east, and to the American Savings and Loan Building, which borders the site on the south, by maintaining the continuous street-level facade. The clear glass and light-colored cladding of the building would be similar to the exterior treatment of older buildings in the vicinity. The project would emphasize visual termination of the view corridor from Union Square down Maiden Lane to Kearny St. by providing landscaped setbacks at the upper floors of the portion of the building located opposite Maiden Lane, and at the street-level, by providing a 30-foot-high public entrance alcove, which would contain a design feature such as a commissioned work of art. The project would replace the existing view terminus from Maiden Lane which presently consists of the rear walls of the 660 Market St. Building and the sign scaffolding on top of the 625 Market St. Building.

The project would reduce existing short-range views from the 7th through 15th floors of the 15-story American Savings and Loan Building. The portion of the project adjacent to the American Savings and Loan Building would be reduced in height, stepped back and landscaped, thereby minimizing short-range view impairment from the upper levels of the American Savings and Loan Building. The project would increase northwesterly winds by up to 28% along Kearny St. south of the site and up to 22% along Post St. east of the site. The project would decrease northwesterly wind speeds by 4% to 11% on Maiden Lane near Kearny St., on sidewalks adjacent to the project site, and on Post St. west of the Post St./Kearny St. intersection.

During afternoon hours in the winter months, the project would add to the shadow patterns cast by the Aetna Building and the Crocker Tower (which is under construction) on the proposed Crocker rooftop plaza (to be constructed on top of the One Montgomery St. banking hall), and on the glass-dome roof of the Lick Place Galleria. During winter months, the project would contribute to the full shading of the glass-dome roof of the retail galleria from about 1:00 to 3:30 p.m., and the full shading of the One Montgomery St. rooftop plaza from about 3:00 to 4:00 p.m., with the dominant shadows being cast by the Crocker Tower and Aetna Building. The project would not shade the Crocker galleria or rooftop plaza during the noon lunch hour during any time of the year; nor would it shade the existing Crocker Plaza on Market St. because of the intervening Aetna Building.

The project would result in a net increase in leasable office space of 122,190 sq. ft. at the site and a net decrease of 9,440 sq. ft. of net leasable retail space. The project would accommodate an increase in on-site employment of as many as 550 employees and would require the displacement of about 16 businesses employing about 50 persons. At initial occupancy, total project employment, including about 190 San Francisco Federal S&L employees, would be about 770.

The project would generate a net demand of approximately 125 housing units. The net increase in office space at the project site would continue the growth in service sector and headquarters activities in San Francisco, and would contribute to the growth of local and regional markets for goods and services.

Construction traffic would intermittently and temporarily reduce the carrying capacity of access streets and haul routes during the 24-month construction period. Construction of a curb cut on Post St. and installation of underground utilities on Kearny and Post Sts. would also cause traffic disruptions. Traffic generated by the project would have a negligible effect upon levels of service on neighboring streets; all project-related traffic would be greater than existing site-generated traffic, but have statistically insignificant effects on levels of service at critical Downtown intersections and freeway access points. The project would increase ridership by no more than 1% on Muni and regional public transit systems serving the project site.

The project would increase by no more than 2% the 1984 projected cumulative traffic volume on freeway feeder streets and on streets near the proposed project. Ridership on Muni lines serving the Downtown area would not increase by more than 0.01%. The project would provide 23 parking spaces, but would generate a projected daily parking demand of 270 parking spaces. This represents a projected daily parking deficit of approximately 250 project-related spaces.

The single loading bay proposed for the basement level of the project would comply with the requirements of the existing City Planning Code, but would not meet the average demand for off-street loading space at the site. This demand could be met by unloading from existing on-street loading spaces on Post St. or by the provision of two off-street loading docks.

Project-related impacts would be generally typical of most Downtown office construction. Air quality impacts would be attributable to construction activities and to increased auto emissions during project operation. Construction activities would temporarily increase airborne dust in the vicinity. Because project-generated traffic and traffic from cumulative Downtown development would increase emissions of air pollutants, Bay Area attainment of state standards would be impeded. Noise effects would be due to construction activities, especially pile driving, which would temporarily disturb employees in neighboring office buildings. The project would require energy consumption of 327 billion Btu-at-source for construction. Energy for project operation would require 2.4 million kilowatt hours per year, generated

primarily from nonrenewable fossil fuels and 3 million cu. ft. of natural gas. Energy consumption would be within the conservation standards of the State Energy Commission.

MITIGATION MEASURES

Mitigation measures proposed as part of the project or under consideration by the project sponsor include:

- The proposed entrance alcove which would be the width of Maiden Lane, with the upper portions stepped back and landscaped to provide a visual terminus of the axial view corridor extending from Union Square down Maiden Lane to Kearny St.; street-level views from Union Square up Maiden Lane currently consist of the three-story, windowless Sutter's Mill Restaurant, and views to higher elevations consist of the rear facades, mechanical equipment, and sign scaffolding of buildings fronting Market St.

- A design feature such as a commissioned work of art would be incorporated into the Kearny St. entrance alcove, providing pedestrian interest.

- The light-colored building cladding and clear glass which would be related to the traditional older buildings in the project vicinity, especially those to the west.

- Stained glass panels from the Maskey Building would be preserved and used in the public areas of the project.

- San Francisco Federal S&L would consider providing low-interest rate financing for the rehabilitation or new construction of housing units in the City equal to the amount of new housing demand generated by the project; units to be rehabilitated or constructed would be identified by the City and San Francisco Federal S&L.

- The project sponsor would encourage transit use through the on-site sale of BART and Muni passes to employees, and by encouraging an employee

carpool and vanpool system in cooperation with RIDES for Bay Area commuters.

- In recognition of the need for expanded transportation services to meet the peak demand generated by cumulative commercial development in the downtown area, the project sponsor would contribute funds for maintining and augmenting transportation service, in an amount proportionate to the demand created by the project, as provided by Board of Supervisors Ordinance Number 224-81 or any subsequent equitable funding mechanism developed by the City.

- The sponsor would consider designating a portion of the 23 proposed parking spaces as short-term parking, thereby addressing Objective 1, Policy 4 of the Downtown Transportation Plan which discourages long-term parking in the Downtown Core.

- The project sponsor would consider establishing flex-time work hours for office employees, as savings and loan operations permit, to reduce peak-hour traffic impacts.

- To meet the average demand for loading spaces at the project site, the project sponsor would consider providing two loading spaces instead of one.

- Prior to final design of the building, the project sponsor and project engineer would meet with the Energy Conservation Department of the Public Utilities Commission to determine that measures are taken to assure energy conservation in the design and operation of the proposed building.

ALTERNATIVES TO THE PROPOSED PROJECT

Alternative A, the no-project alternative, would retain the existing five buidings on the site.

Alternative B, would entail preservation of the Maskey Building and/or the 60 Kearny St. Building; preservation and integration of the facade and the front 40% of the Maskey Building into the new structure; and incorporation of design features of the Maskey Building into the exterior design of the project.

Alternative C considers a combined housing and office development at the site.

Alternative D would consist of development of a structure which would comply with development controls contained in Department of City Planning, May 1981, Guiding Downtown Development.

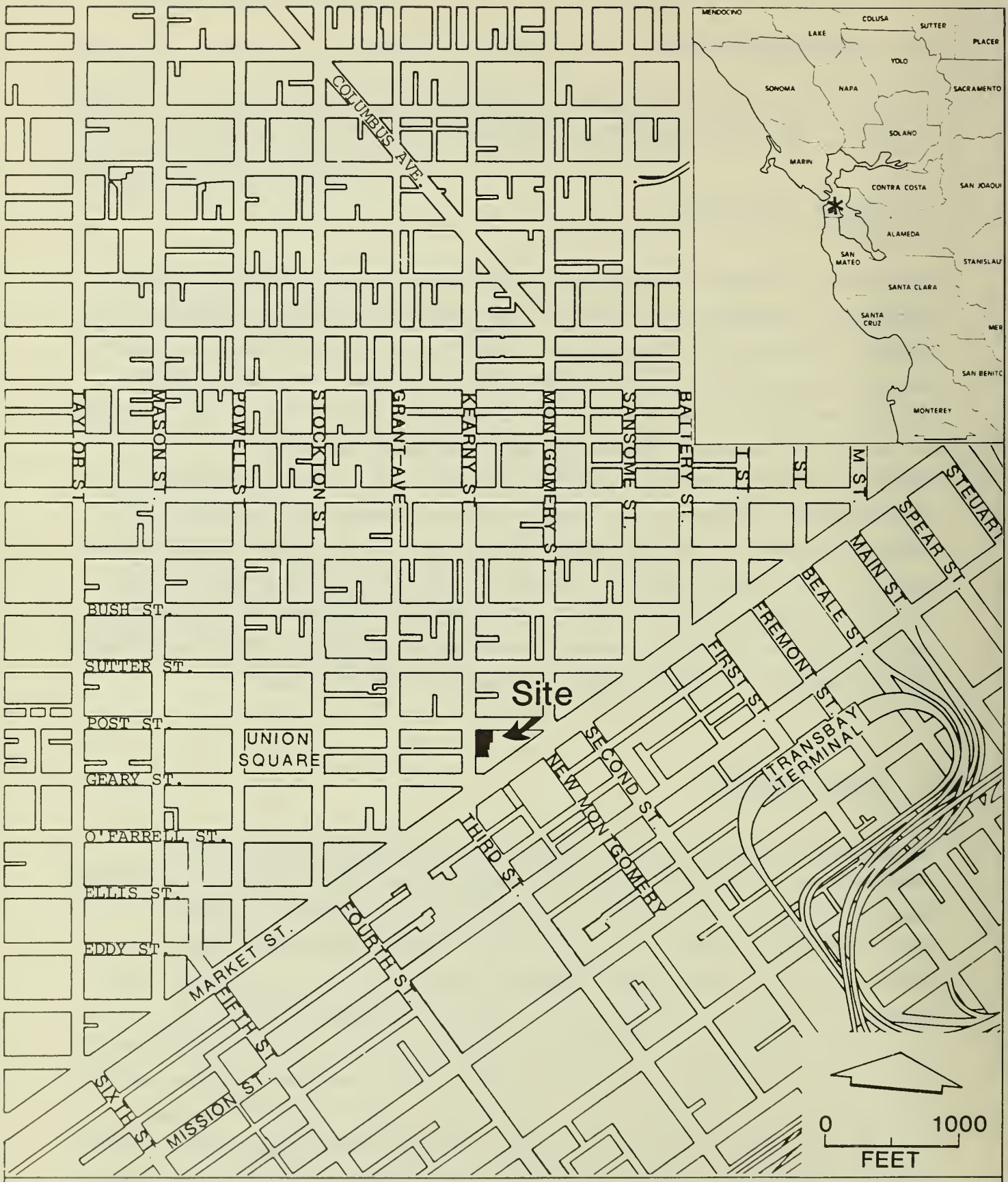
II. PROJECT DESCRIPTION

A. SPONSOR'S OBJECTIVES

San Francisco Federal Savings and Loan Association, a San Francisco based corporation, proposes to construct a new headquarters office building in the Financial District of San Francisco. San Francisco Federal Savings and Loan has been headquartered at the project site since 1944. The headquarters offices and main savings branch of San Francisco Federal are currently located in four of the existing five buildings occupying the project site. The sponsor's objectives are to continue use of the site as its headquarters by providing more efficient, functional space for savings and loan operations currently located in the four separate buildings, and by providing additional space for anticipated growth. San Francisco Federal Savings and Loan also intends to develop the site into a unified design theme that would identify its headquarters offices, and enhance its corporate image. Project architects and engineers are Skidmore, Owings and Merrill, San Francisco.

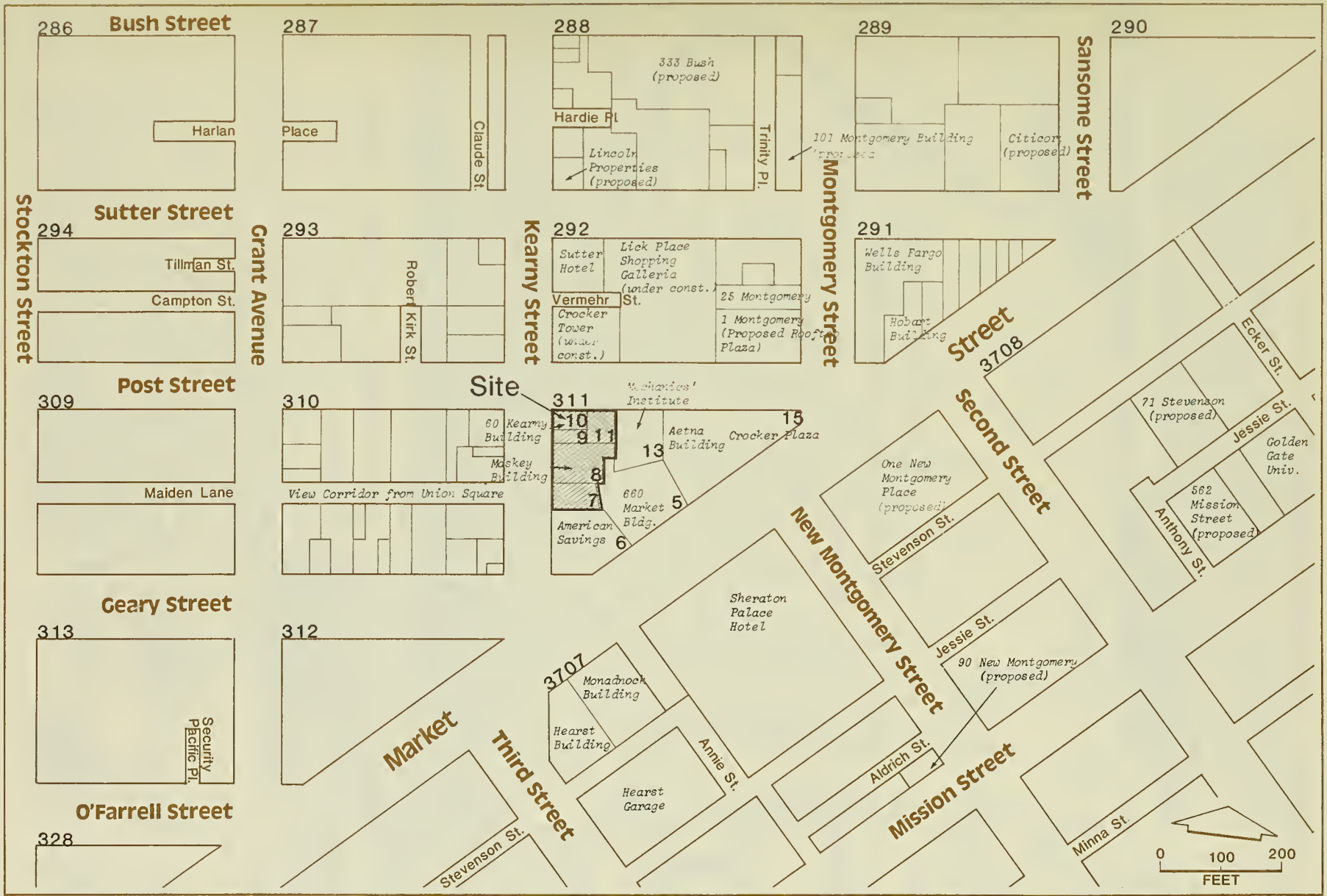
B. PROJECT LOCATION

The proposed building would be located at the southeast corner of the intersection of Post and Kearny Sts. opposite the site of the Crocker National Bank Headquarters Tower and Lick Place Galleria (EE78.298, Final EIR, certified May 18, 1979), which are currently under construction (see Figure 1, p. 10). The project site consists of Lots 7, 8, 9, 10 and 11 on Assessor's Block No. 311; the area of the site is about 14,250 sq. ft. The site is surrounded by the Mechanics' Institute on the east; the 660 Market St. Building on the southwest; and the American Savings and Loan Building, which fronts on Kearny and Market Sts., on the south. The Aetna Building and Crocker Plaza are located on the eastern portion of the project block. Other existing and proposed major buildings in the vicinity of the site are shown in Figure 2, p. 11.



SOURCE: Environmental Science Associates, Inc.

FIGURE 1: Project Location



Legend

Project Site: Assessor's Block No. 311; Lots 7, 8, 9, 10 and 11.

FIGURE 2: Project Site and Vicinity

SOURCE: Environmental Science Associates, Inc.

The site is located on the western boundary of the Financial District and adjacent to the eastern edge of Union Square Retail and Hotel District. Maiden Lane, a two-block retail shopping corridor between Stockton and Kearny Sts., is situated opposite the southern portion of the project site. The project site is within one block of the Montgomery Station of the Market St. subway, which serves the Bay Area Rapid Transit (BART) system and the Muni Metro light rail system.

C. SITE AND BUILDING PLAN

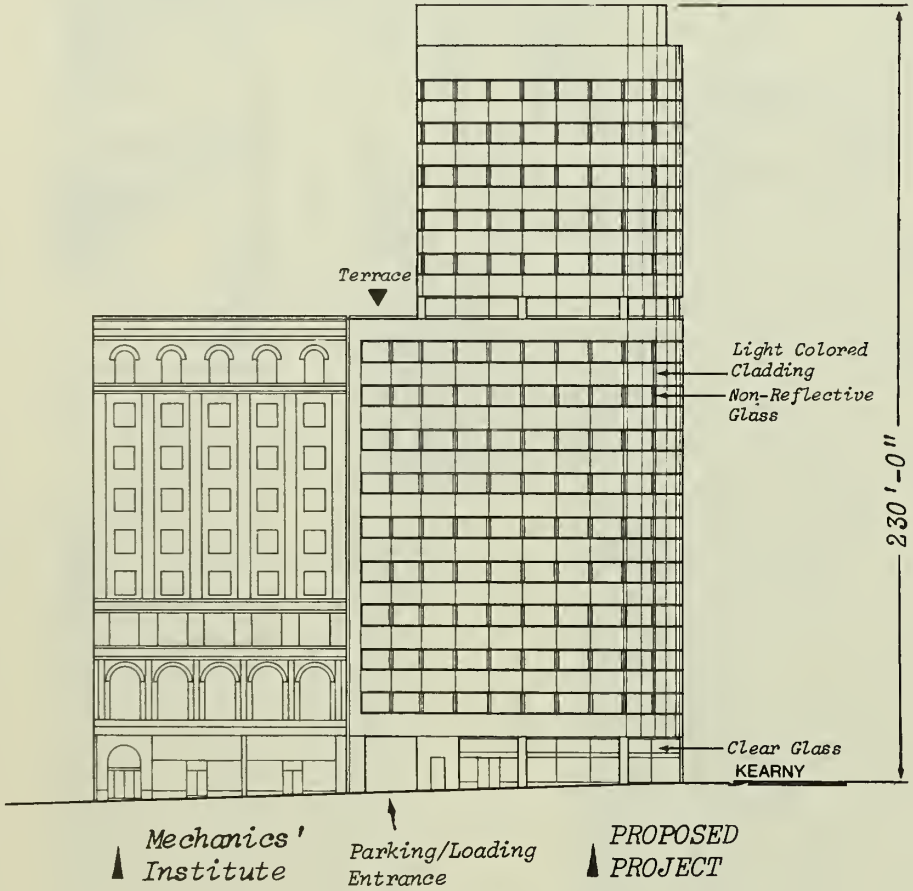
The project would be a 16-story, 230-ft.-high office building including 16 floors of useable space, one basement level, and one mechanical penthouse floor. Materials for the building facade have not yet been selected. The proposed design concept calls for light-colored cladding, with clear glass windows. A first floor cornice line, approximately the same height as the lower cornice lines of the adjacent Mechanics' Institute on Post St. and American Savings and Loan Building on Kearny St., would extend along the Post and Kearny Sts. frontages of the building, emphasizing a continuation of the street-level facade (see Figure 3, p. 13). At the 11th floor, a balcony would extend along the building. Along the Post St. frontage, the 11th through 16th floors would be set back 20 ft. from the roofline of the adjacent Mechanics' Institute Building, providing approximately 1,350 sq. ft. of area to be used as a terrace for building employees (see Figure 4, p. 14).

A 30-ft.-high public entrance alcove would be located on Kearny St. opposite Maiden Lane to provide a street-level visual terminus to the end of Maiden Lane. The proposed alcove would be approximately the same width as Maiden Lane and would incorporate a design feature such as a commissioned work of art. Beginning at the 11th-floor balcony, the upper portions of the building above the entrance alcove would have three step backs, landscaped with planters, and rising to about 175 ft. in elevation (see Figure 5, p. 15). These step backs would be used as terraces by building employees.

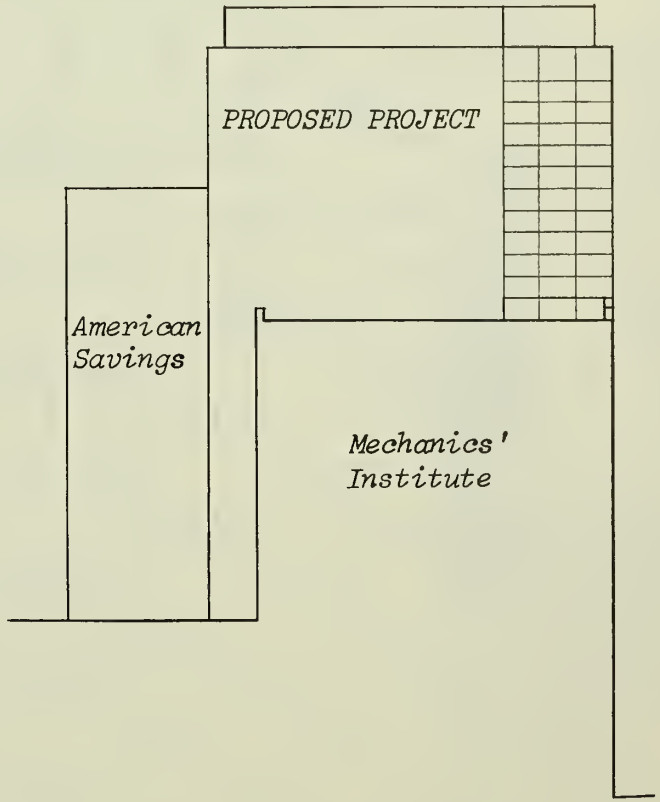
The building would contain approximately 199,100 gross sq. ft. (188,000 net sq. ft.) of floor area, exclusive of 1 basement floor, with a maximum floor

SOURCE: Skidmore, Owings & Merrill

FIGURE 3: View of Project from Post and Kearny Streets



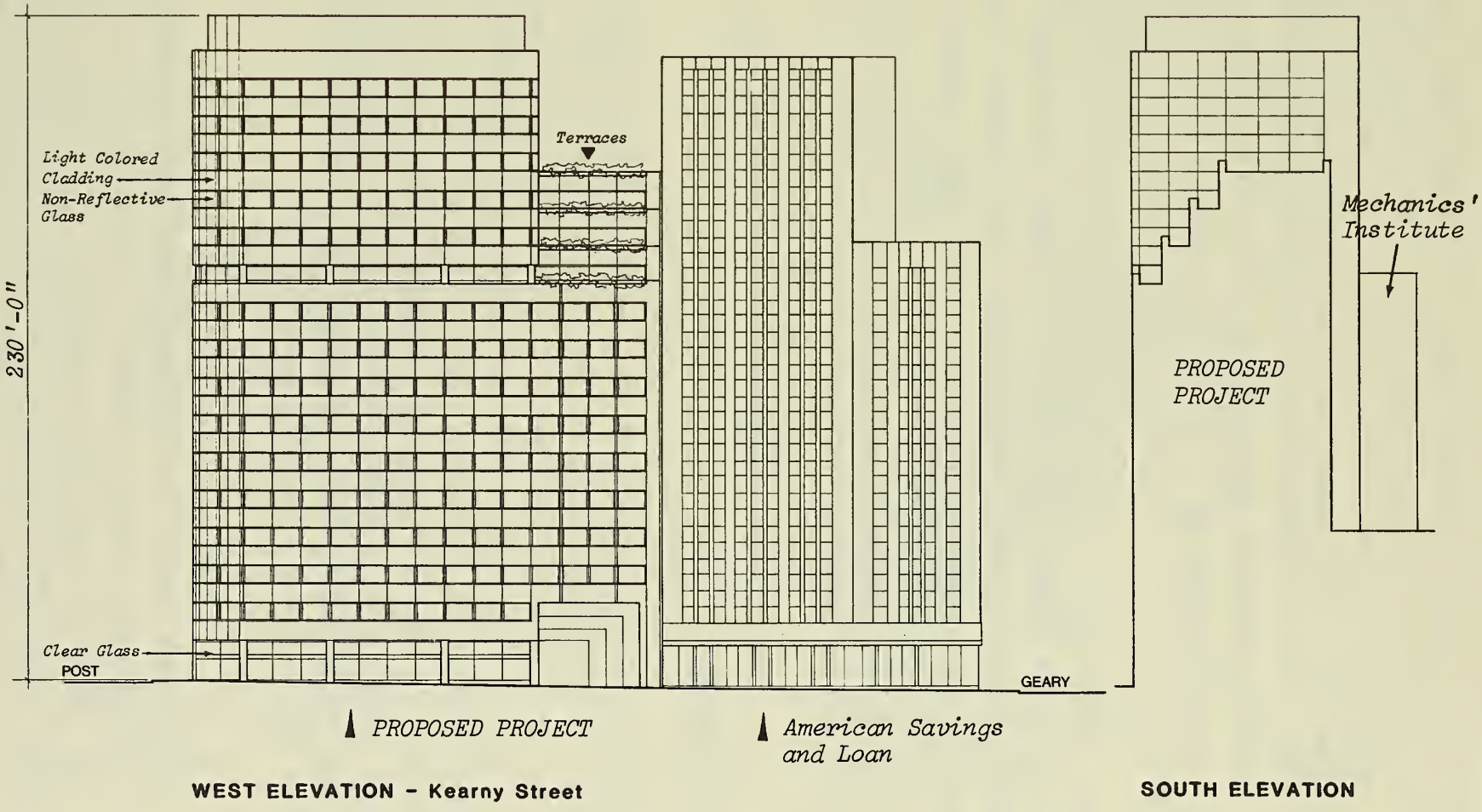
NORTH ELEVATION - Post Street



EAST ELEVATION

SOURCE: Skidmore, Owings & Merrill

FIGURE 4: North and East Elevation



SOURCE: Skidmore, Owings & Merrill

FIGURE 5: West and South Elevation

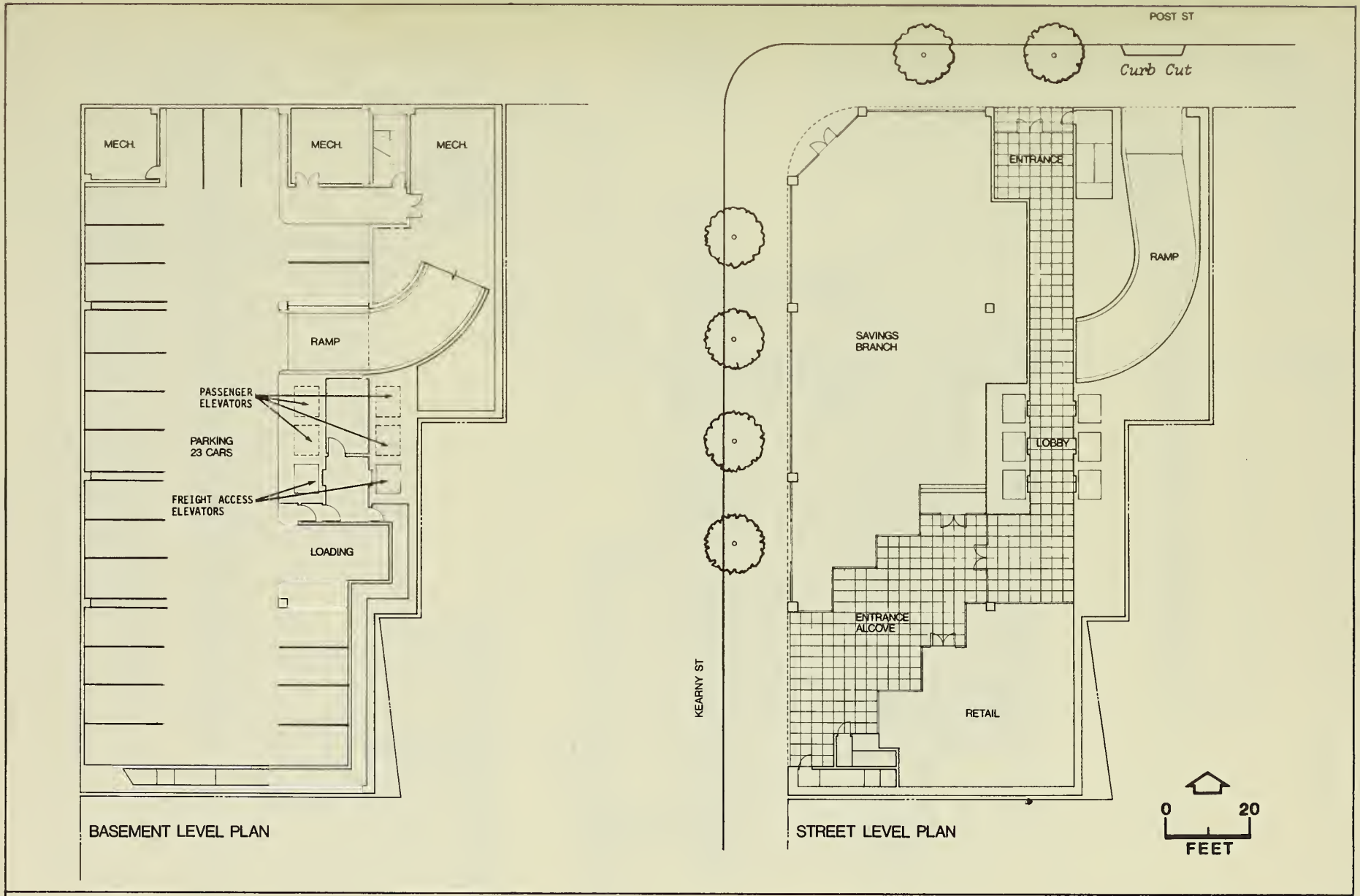
area ratio of 14:1 on the 14,250 sq.-ft.-site. The ground floor would contain approximately 1,600 sq. ft. of retail space and, at the Post and Kearny Sts. corner of the building, the main savings branch of San Francisco Federal Savings and Loan (S&L) would contain approximately 5,000 sq. ft. The ground floor would also contain a pedestrian way with entrances on Kearny and Post Sts., providing access to the lobby area and elevators serving the office floors, to the retail space, and to the interior entrance of the corner savings branch.

Approximately 186,150 gross sq. ft. (158,200 net sq. ft.) of offices would be located on the second through 16th floors. The basement level would contain approximately 23 parking spaces, one loading bay, and a mechanical equipment area. Access to the basement level would be from a 30-ft.-wide vehicle ramp on Post St., where one curb cut would be required. Basement level, street level, typical lobby and office floor plans and a north-south building section are shown in Figures 6 and 7, pp. 17-18.

D. PROJECT OCCUPANCY

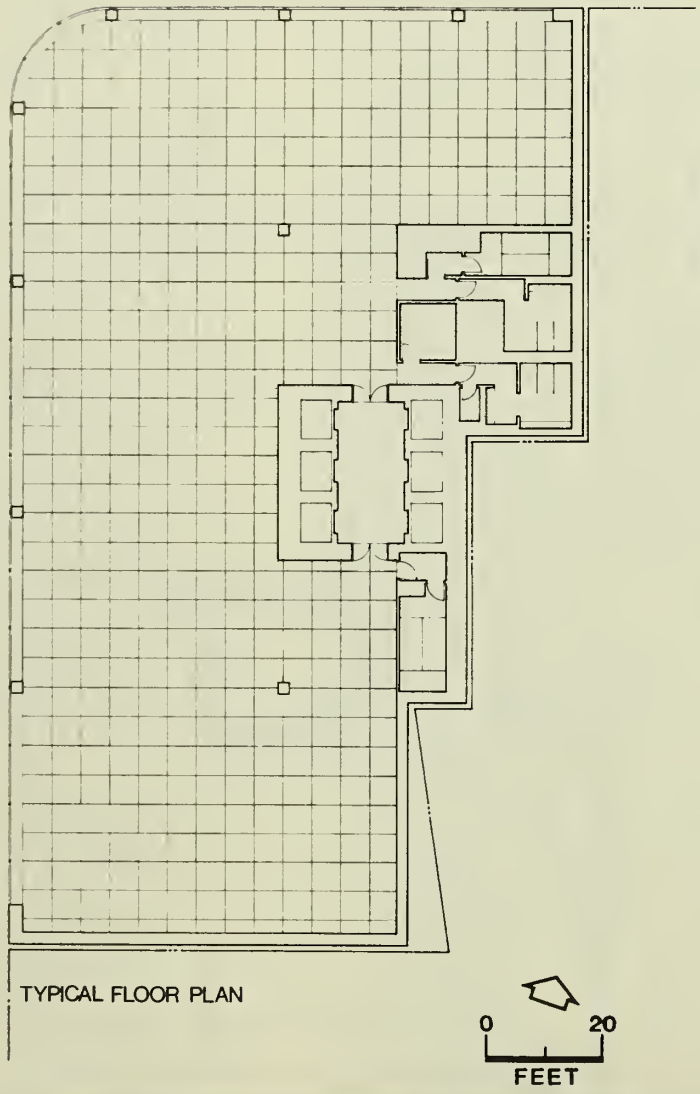
San Francisco Federal Savings and Loan would be the principal occupant of the new building, occupying about 45,000 net sq. ft. or 25% of the total net leasable floor area at initial occupancy. No other tenants are secured at this time. San Francisco Federal would occupy the corner savings branch of approximately 5,000 sq. ft. and approximately 40,000 net sq. ft. of office space; the remaining 118,200 net sq. ft. of office space would be occupied by other tenants. San Francisco Federal indicates that eventually it would occupy a larger portion of the building, based on an average employee growth rate of about 4% per year over the past ten years./1/

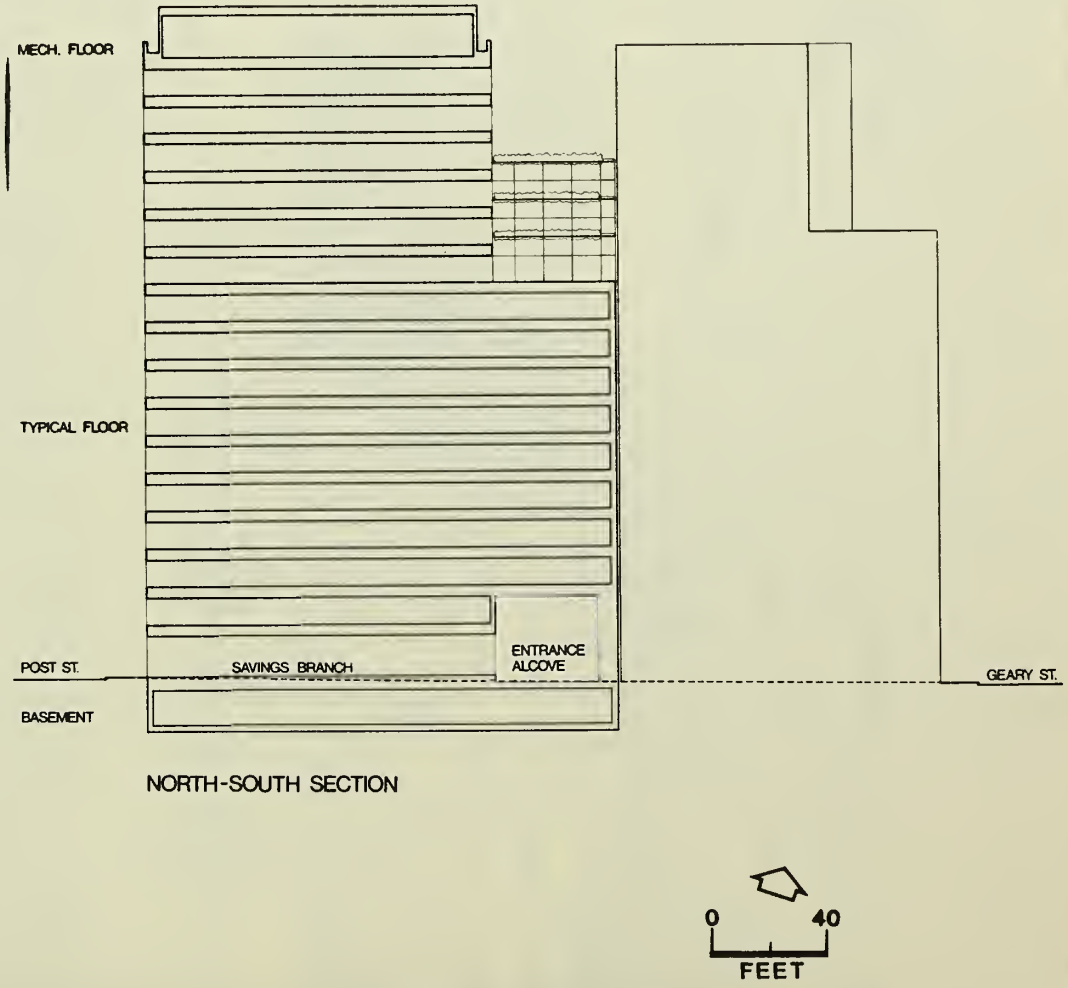
During the construction period, San Francisco Federal would temporarily relocate its 170 employees presently working at the project site to other offices in San Francisco. After project completion, all 170 San Francisco Federal employees would return to the new building. San Francisco Federal anticipates that its employment force would increase by 20 persons during the



SOURCE: Skidmore, Owings and Merrill

FIGURE 6: Basement and Street Level Plans





SOURCE: Skidmore, Owings and Merrill

FIGURE 7: Typical Floor Plan and North-South Section

construction period, for a total of 190 Savings & Loan employees at initial building occupancy./2/

E. PROJECT SCHEDULE, COST AND APPROVAL REQUIREMENTS

PROJECT SCHEDULE/3/

Detailed design of the San Francisco Federal S&L building and certification of the Environmental Impact Report (EIR) are scheduled for early 1982. Demolition of the five buildings on Lots 7, 8, 9, 10 and 11 would begin in mid-1982, after approval of the project by the City Planning Commission and issuance of demolition, site and other permits, followed by construction of the project. Assuming adherence to the schedule presented in Table 1, first occupancy would be in mid-1984.

TABLE 1: CONSTRUCTION SCHEDULE FOR THE SAN FRANCISCO FEDERAL SAVINGS AND LOAN HEADQUARTERS BUILDING

Building Activity*	Approximate Month of Completion**
Demolition and Site Clearance	3
Excavation and Foundation	2
Steel Erection	3
Exterior Finishing	4 - 5
Interior Finishing	8 - 11
Initial Occupancy	23 - 26
Full Occupancy	32 - 33

* Various building activities would continue concurrently.
** The estimated month of the construction period in which the activity would be completed.

SOURCE: Clifton C. Brinkley, Construction Consultant; and Environmental Science Associates, Inc.

COST/4/

San Francisco Federal currently owns all five buildings occupying the project site. Project construction costs, excluding the cost of land, would be approximately $23,975,000 in 1981 dollars, including $15,000,000 for the basic structure; $2,500,000 for interior finishes; $1,000,000 for design, engineering and environmental documentation; $4,725,000 for interim financing; and $750,000 for leasing fees.

APPROVAL REQUIREMENTS

The first steps in processing the proposed project are public review of the draft environmental impact report (DEIR), response to public comments on the DEIR, and certification of the EIR by the City Planning Commission. The City Planning Commission would also review the project design and environmental context under its current policy of Discretionary Review of all Downtown projects during the interim development controls on the use of floor area bonuses/5/. After a public hearing, the Commission would then adopt a resolution either approving, approving with conditions, or disapproving the project. If approval is granted by the City Planning Commission or, by the Board of Permit Appeals on appeal, the project sponsor would be required to obtain a demolition permit from the Central Permit Bureau of the Department of Public Works. Before beginning building construction, the project sponsor would also be required to obtain building, fire, electrical, and related permits from the Central Permit Bureau.

The Maskey Building, located on Lot 8 of the project site, is currently under consideration by the Landmarks Preservation Advisory Board for designation as a City Landmark. The Planning Commission is currently scheduled to hear the Board's recommendation at its meeting on January 28, 1982. Should the recommendation be approved by the Planning Commission, and, subsequently, by the Board of Supervisors, the Maskey Building would become a City Landmark 30 days after the Mayor signs a draft ordinance granting landmark status. Construction, removal, or demolition of the Maskey Building would require a Certificate of Appropriateness from the City Planning Commission, or in the case of exterior alteration, from the Landmarks Preservation Advisory Board.

NOTES - Project Description

/1/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, letter communication, December 18, 1980.

/2/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, telephone communication, May 6, 1981.

/3/ Clifton C. Brinkley, Construction Consultant, written communication, May 26, 1981.

/4/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, letter communication, May 19, 1981.

/5/ City Planning Commission Resolution No. 8474, January 17, 1980. Board of Supervisors Ordinance 240-80, June 1, 1980, established the interim limitations on use of bonuses in effect until July 1, 1981. This ordinance was extended in June 1981 until September 1, 1981, and subsequently until March 4, 1982.

III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

The building site is at the southeast corner of the intersection of Post and Kearny Sts. The site is situated along the western edge of San Francisco's Financial District, which encompasses a roughly triangular area bounded by Kearny, Washington and Mission Sts.

Land uses on the project site and in the immediate vicinity of the project site are primarily ground-level retail uses with upper-level office uses. (See Section III.D., Employment, Housing and Fiscal Factors, p. 31, for a more detailed discussion of on-site land uses). To the northeast is San Francisco's Financial District, which contains a combination of early 20th century banking and office facilities, and most of the City's recent highrise development. To the northwest, across Grant Avenue is the Union Square Retail and Hotel District of the City. Maiden Lane, a two-block retail corridor west of the project site, contains a collection a small-scale, specialty retail shops and resturants which offer a pedestrian transition from the Union Square retail district to the more predominant office uses east of Kearny St. Land uses in the project vicinity along Market St. and to the south consist of the Sheraton Palace Hotel at Market and New Montgomery Sts., and multi-use buildings containing ground-level restaurant, retail or bank uses with upper level office uses.

A number of projects are under construction, have been approved or are proposed in the project vicinity. Under construction are the Crocker Tower and the Lick Place Galleria, a three-level retail shopping mall, which are part of the Crocker National Bank Headquarters project; and the 101 Montgomery St. Building. Proposed developments in the project vicinity include the One New Montgomery Place Building, at Market and New Montgomery Sts., the 71 Stevenson St. project at Stevenson and New Montgomery Sts., the 562 Mission St. project at Anthony and Mission Sts., the Lincoln Properties development at

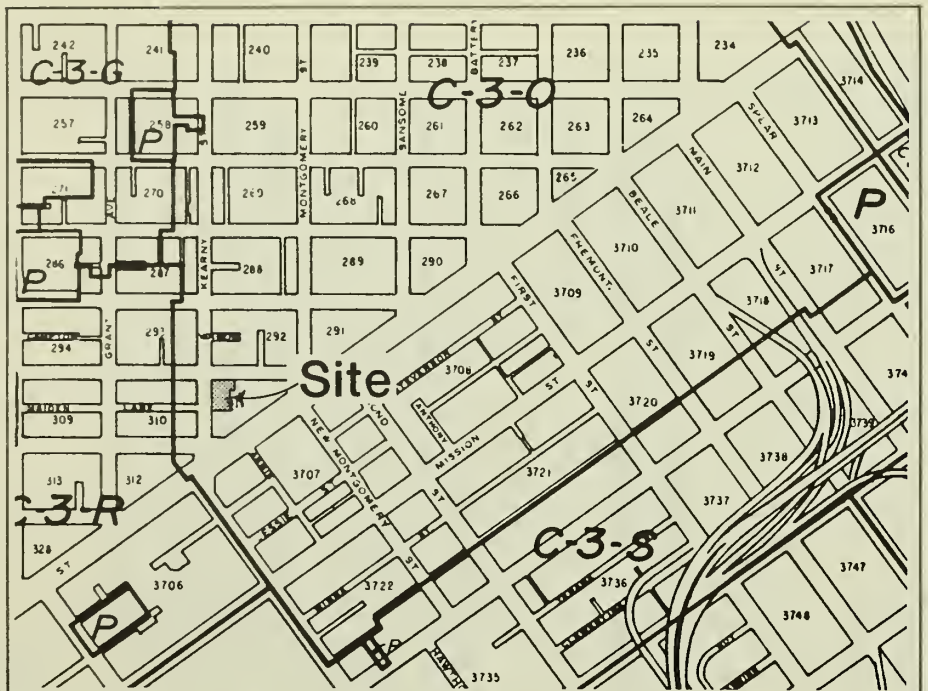
Sutter and Kearny Sts., and the 333 Bush St. Building at Bush and New Montgomery Sts. (see Figure 2, p. 11).

The City Planning Code Use District classification for the site and surrounding area is C-3-O, Downtown Office District (see Figure 8, p. 24). Office and retail uses are permitted in this district with a basic Floor Area Ratio (FAR) of 14 to 1; that is, buildings may have a basic total floor area that is 14 times the area of the site. A total floor area of about 199,440 sq. ft. would be permitted under the Code on this 14,246-sq.-ft. site. Approximately 199,100 sq. ft. of floor area is proposed for development. Housing developed at 1 unit per 125 sq. ft. of lot area is allowed under the City Planning Code. A total of 114 housing units would be permitted by the Code on this 14,246-sq.-ft. site. Bonus floor areas for housing permitted by Section 126 of the City Planning Code are not applicable, as on-site housing is not proposed for the project.

The site is in the 500-I Height and Bulk District (see Figure 9, p. 24) in which the maximum permitted building height is 500 ft. above a height of 150 ft., the maximum permitted building length is 170 ft., and the maximum permitted diagonal dimension is 200 ft.

B. URBAN DESIGN AND VISUAL ASPECTS

Because the site consists of buildings which are three to seven stories in height, it is obscured from view from distant points such as Twin Peaks or Potrero Hill by larger or taller buildings in the vicinity. One portion of the site, Lot 7, is prominent when viewed from nearby Union Square or Maiden Lane, since it terminates the axial view down Maiden Lane. That parcel is occupied by a remodeled, three-story, windowless restaurant and bar. Above the restaurant and bar can be seen the rear facade of the upper floors of 660 Market St. Building which was not designed to be seen (see Figure 10, p. 28). Above the 660 Market St. Building can be seen the upper floors and sign scaffolding of the 625 Market St. Building. This portion of the site is prominent in nearby views of the site from the west.



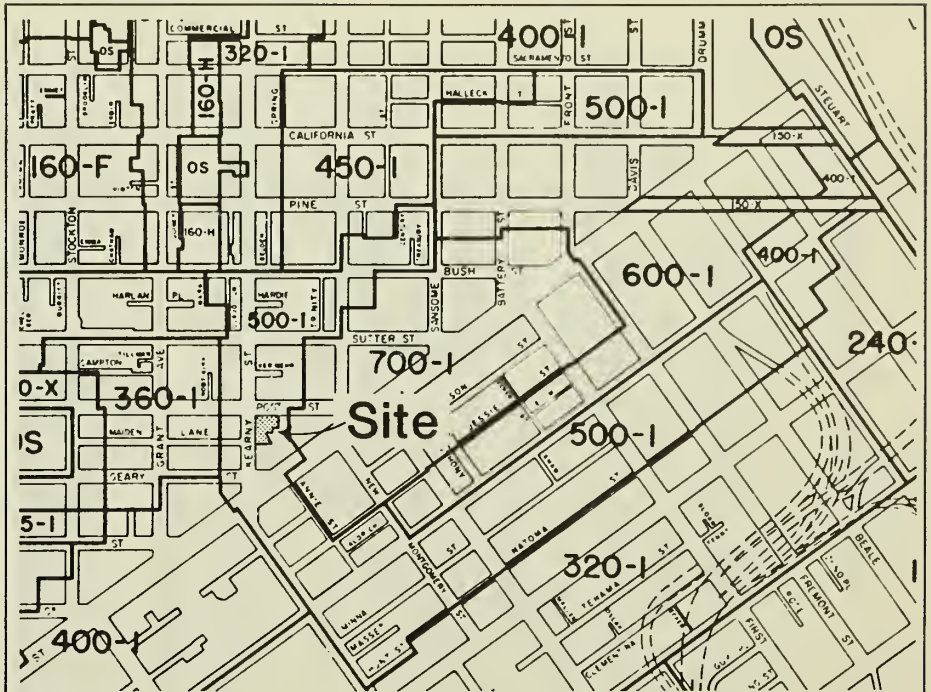
Legend

C-3-G	Downtown General Commercial District
C-3-O	Downtown Office District
C-3-R	Downtown Retail District
C-3-S	Downtown Support District
P	Public Use District

0 800
FEET

SOURCE: City Planning Code

FIGURE 8: Planning Code Use Districts



Legend

HEIGHT and BULK DISTRICTS	HEIGHT LIMIT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
700-I	700	150'	170'	200'
600-I	600	150'	170'	200'
500-I	500	150'	170'	200'
450-I	450	150'	270'	200'
400-I	400	250'	270'	200'
360-I	360	150'	170'	200'
320-I	320	150'	170'	200'
240-G	240	80'	170'	200'
130-G	130	80'	170'	200'
200-X	200	Bulk limits not applicable		
150-X	150	Bulk limits not applicable		
105-F	105	80'	110'	140'
84-E	84	65	110'	140'
OS	Conformity with objectives, principles and policies of the Master Plan			

0 800
FEET

SOURCE: City Planning Code

FIGURE 9: Planning Code Height and Bulk Districts

Visually, the site is distinguished by the five three- to seven-story buildings on it, and by the contrasting 38- to 44-story height of newer buildings to the north and east. The buildings on the site were built before 1910 and are similar in design to those on the opposite side of Kearny St. which were built at approximately the same time and to the same scale.

The project site is in a transitional height area; many low-rise buildings occupy the perimeter of the Financial District, while buildings in the core of the District, to the north and east are mostly highrise. The project area is characterized by older, low- and medium-rise buildings along Post, Kearny and Market Sts., situated among a few highrise buildings. The medium-rise, 15-story American Savings and Loan Building borders the site on the south; this building is approximately 220-ft. high on the Kearny St. frontage and about 155-ft. high on the Market St. frontage. Highrise buildings in the immediate project area include the 38-story, 527-ft.-high Aetna Building which occupies the eastern portion of the project block. The 40-story, 500-ft.-high Crocker National Bank Tower, located opposite the site at the northeast corner of Post and Kearny Sts., is currently under construction and is expected to be completed in mid 1982.

The Maiden Lane Merchants Association and building owners are proposing an improvement plan for Maiden Lane. The plan calls for sculptured gateway elements at the Kearny St. entrance to the lane; special sidewalk and street paving; a continuation of existing outdoor eating and other outdoor activity areas; and raised planters. Removable bollards (thick, low posts) would be located at the Kearny St. entrance, allowing truck access during designated service and delivery times. Planned improvements are tentatively scheduled for completion in October 1982./1/

Wind

Northwesterly and westerly winds are the most frequent and the strongest winds at all seasons in San Francisco. (In meteorology, a northwest wind blows from the northwest.) Wind frequencies and speeds are highest in the summer. Northwest winds occur from 12% to 39% of the time, exceeding 13 miles per hour

(mph) 35% of the time and 25 mph 3% of the time. West winds occur from 15% to 40% of the time, exceeding 13 mph 29% of the time and 25 mph 7% of the time.

Wind tunnel tests of localized wind speeds and directions at the project site and vicinity were conducted under conditions of northwest and west winds./2/ The study included tests of existing conditions and conditions with the proposed project. Wind speeds are described according to the following scale: low; moderately low; moderate; moderately high; high; and very high./3/

Under existing site conditions, wind speeds during northwest winds range from moderate to high, with the highest wind speed ratios along Kearny St. north of Post St., Post St. south of the site, and the southwest corner of the Kearny/Geary/Market Sts. intersection. West wind speeds range from low to moderately high, with highest wind-speed ratios occurring east of the site along Post St.

NOTES - Urban Design and Visual Aspects

/1/ Richard Morten, Director of Transportation and Planning, San Francisco Chamber of Commerce, telephone communication, July 20, 1980; and Maiden Lane Schematic Design Plan, January 1980.

/2/ Environmental Impact Planning Corporation, May 1981, Microclimate Impact Study for the Proposed San Francisco Federal Savings Building (see Appendix B, p. 172 for the complete text of this study).

/3/ These ranges do not describe actual wind speeds, but percentages of the calibration wind speed. The calibration wind speed is the actual wind speed at the Downtown San Francisco Weather Station at 50 Fulton St. The percentages of the calibration wind speeds which correspond to the ranges are shown in the microclimate study contained in Appendix B.

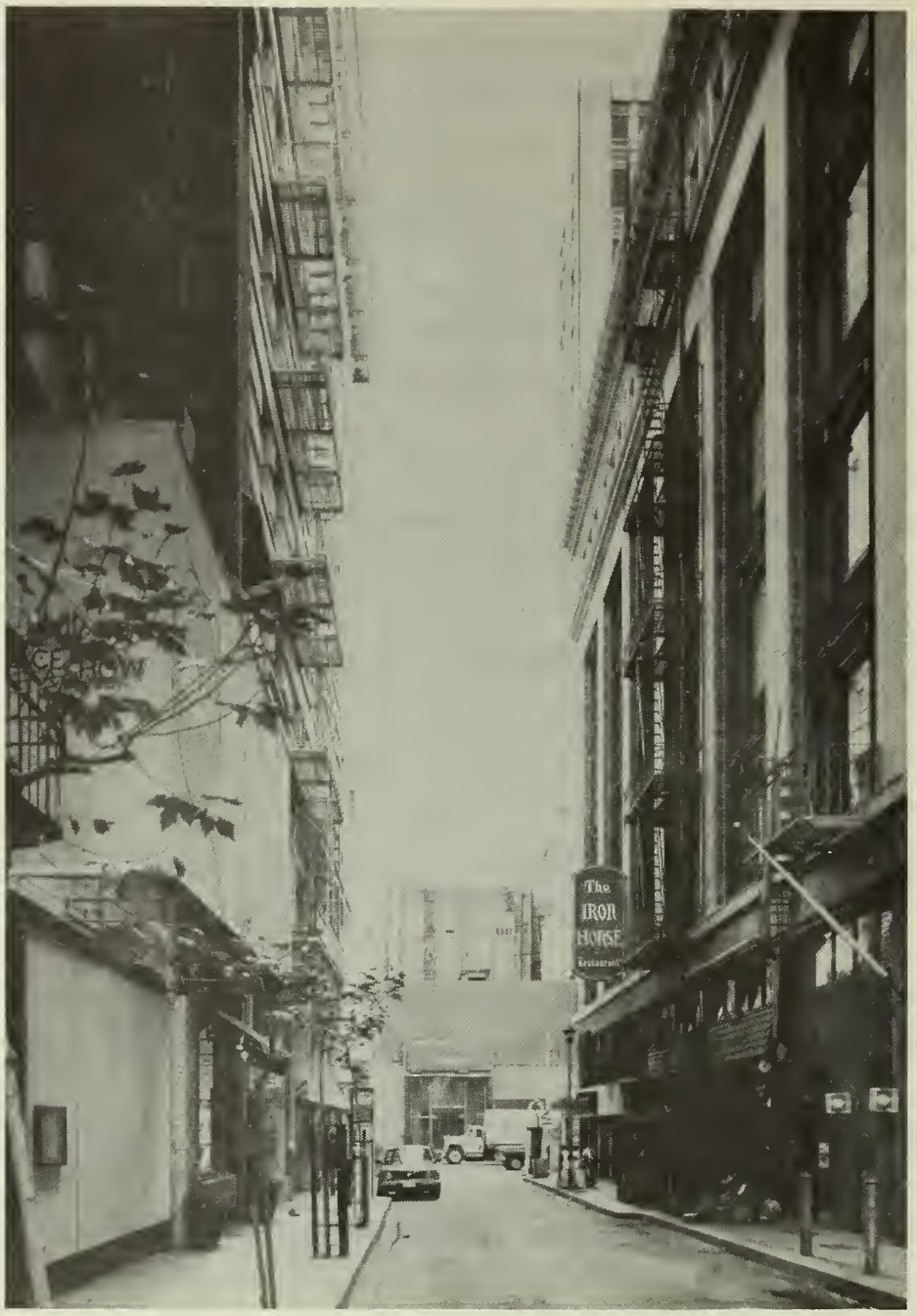
C. CULTURAL AND HISTORIC ASPECTS

The first known development on the project block occurred between 1851 and 1859, as the center of the new City extended southward toward Market St. The development consisted of small buildings fronting on Kearny and Market Sts. Post St. was still undeveloped in 1857. In 1851, when the Mission plank road was built to connect the City with Mission Dolores, the toll gate was placed at the intersection of Post and Kearny Sts. where a cut in a 60-ft. sand hill

had been made. The road extended south on Kearny St., cutting through an 80-ft.-high sand hill at Market and Third Sts., and proceeded south on Third St. to Mission St. where it turned westward.

The block was fully developed by the turn of the century. All buildings on the site were destroyed by the Great Fire of 1906, and all buildings in the block were similarly destroyed, except the Chronicle Building (690 Market St.) at Market and Kearny Sts. which is now occupied by American Savings and Loan. Designed by Burnham and Root of Chicago in 1889, it withstood the earthquake and was rebuilt and expanded after the fire. New buildings replaced those destroyed on the block in the period between 1906 and 1924. Of these all remain except the Crocker Building, designed by A. Page Brown, on the corner of Market and Post Sts. This building was replaced in 1969 by the Aetna Building and Crocker Plaza. The Mechanics' Institute, bordering the project site on the east, was designed by Albert Pissis in 1909 to replace the Institute building on the site that was destroyed in 1906. Designation of the nine-story building with its two-story library as a City landmark, under the provisions of Section 1004 of the City Planning Code, is under consideration by the Landmarks Preservation Advisory Board./1/

On the project site two of the five buildings were rated in the Architectural Inventory completed by the Department of City Planning in 1976. The two buildings are the Maskey Building at 46 Kearny St. rated "3" in the Department of City Planning Inventory and the corner building at 60 Kearny St. rated "1" by the Department of City Planning, on a scale of 1 - 5, with "1" as the lowest rating and "5" as the highest rating (see Figure 10, pp. 29-30). These buildings were also given a "B" rating by the Foundation for San Francisco's Architectural Heritage in its 1979 survey. These two buildings are also listed as "architectural or historically significant buildings in the Downtown" by City Planning Commission Resolution No. 8600, "meriting special concern for preservation in part or in whole", and requiring special review by the City Planning Commission. The Maskey Building, a steel-framed building clad in white glazed terra cotta, is currently under consideration by the Landmarks Preservation Advisory Board for designation as a City landmark.



Sutter's Mill
30 Kearny St.
(foreground)

690 Market St.
Building
(rear facade in
background)

FIGURE 10: Existing Views of the Project Site-
View down Maiden Lane

SOURCE: Environmental Science Associates, Inc.

FIGURE 10 (Continued) : Existing View of the Project Site - Maskey Building and Kearny Street Frontage

SOURCE: Environmental Science Associates, Inc.

FIGURE 10 (Continued) : Existing Views of the Project Site - 60 Kearny Street Building and Post Street Frontage

SOURCE: Environmental Science Associates, Inc.

The other three buildings on the site are not mentioned in any of the building surveys. A description of the surveys and a more complete description of the rated buildings on the block is contained in Appendix C, p. 186 and the locations of cited buildings on the site and in the vicinity are shown in Figure 11, p. 32.

NOTE - Cultural and Historic Aspects

/1/ Jonathan Malone, Secretary, Landmarks Preservation Advisory Board, telephone communication, May 18, 1981.

D. EMPLOYMENT, HOUSING, AND FISCAL FACTORS

LOCAL AND REGIONAL COMMERCIAL SPACE AND EMPLOYMENT

San Francisco is the major office center in the Bay Area with approximately 57 million gross sq. ft. of office space./1/ During the 1970s, space in downtown buildings was added at a rate of about 1.6 million sq. ft. per year. Office buildings (of at least 10 stories) with a total space of approximately 27.1 million sq. ft. were constructed between 1960 and 1980 (see Appendix D, Employment and Housing Factors, Table D-1, p. 190). An additional 8.7 million sq. ft. of office space would be added if the buildings approved or under construction were completed./1/

The largest employment growth in the Bay Area from 1970 to 1978 occurred in the office sector, with over 60% of the regional increase in total work force. A total of 1.2 million people in 1978 held office jobs in the Bay Area, with nearly 70% employed by firms serving the local population. Over 55% of the 280,000 office workers employed in San Francisco worked for employers such as national or regional headquarters which serve a wider geographical area./2/

In early 1981, annual rents in the newer downtown office buildings ranged from about $24 to $35 per sq. ft. Office space in the buildings that will go on the market in 1983 is expected to command rents of between $35 and $50 per sq. ft./3/ San Francisco downtown office vacancy remains one of the lowest in

Legend

	Year Built	Building	DCP Inventory Rating*	Heritage Survey Rating*
1.	1907	60 Kearny St. (on site)	NR	B
2.	1908	Maskey Building (on site)	3-D7-3	B
3.	1909	Mechanic's Institute	3-D1-3	A
4.	1924	660 Market St.	NR	B
5.	1969	Aetna Building	4-F2-4	NR
6.	1908	Crocker Bank	3-D4-4	A
7.	1926	Hunter-Dulin Building	4-D4-5	A
8.	1908	200 Kearny St.	3-F1-3	A
9.	1907	Central Realty Building	1-F1-2	B
10.	1917	Halladie Building**	5-FB-5	A
11.	1902-1907	French Bank Building	3-D7-4	A
12.	1910	California Pacific Building	1-D7-2	B
13.	1909	Hearst Building	2-D1-3	B
14.	1906	Monadnock Building	2-D7-3	B
15.	1909	Palace Hotel (Garden Court a City Landmark)	NR	A
16.	1907	625 Market St.	NR	B
17.	1917	605 Market St.	1-D7-1	B
18.	1913	Hoffman's Grill	NR	B
19.	1902-1906	Citizens Savings	5-E3-5	A
20.	1909	Baldwin Buiding	3-D7-4	B
21.	1907	Brooks Camera Building	2-D3-2	B
22.	1908	Roullier Building	2-D3-2	B
23.	1909	Dubbs Building	1-D7-1	B
24.	1907	Sherman-Clay Building	1-D3-2	B

*See Appendix C for a discussion of surveys and ratings
**Listed on the National Register of Historic Places

FIGURE 11: Architecturally Significant Buildings on the Site and in the Vicinity

SOURCE: Environmental Science Associates, Inc.

the nation at 0.1%./4/ Low vacancy rates coupled with rapidly growing rents suggest that the supply of new office space in San Francisco has not kept pace with demand.

The apparent shortage of office space in San Francisco is one factor that has influenced some potential users of San Francisco office space to locate elsewhere. While the City houses 60% of the region's office space, 56% of new construction, based on building permit value, took place outside the City from 1972-1979./3/ Less expensive space in outlying areas attracts companies that do not need a downtown San Francisco location or can shift their clerical functions out of the City. For example, approximately nine million sq. ft. of new office space is under construction or planned in the next ten years in major projects in San Mateo County. Office space construction in Contra Costa County is averaging one million square feet a year. Rents for new office space in both of these counties average from $15 to $18 per sq. ft./4/

Employment and Tenant Mix at the Project Site

Presently business establishments at the project site provide employment for about 220 persons. The majority, 77%, are employed by San Francisco Federal Savings and Loan Association. Other tenants include four retail/restaurant businesses employing 20 persons, nine offices employing 19 persons, and three civic organizations employing nine persons, for a total of 48 non-San Francisco Federal employees at the project site.

HOUSING

A description of regional and San Francisco housing characteristics is included in EE.80.268, Five Fremont Center, Final EIR, certified March 12, 1981, pp. 37-49. This report is available for public review at the Office of Environmental Review, 45 Hyde St., Room 319, and is hereby incorporated by reference into this EIR as provided for in the California Environmental Quality Act (CEQA) guidelines, California Administrative Code, Title 14, Section 15140. Information on the housing stock includes amount, growth factors, vacancy rates, and purchase and rental costs. Both regional and San Francisco housing stock are characterized by low growth, low vacancy rates

and high purchase and rental costs in relation to typical wages paid. These factors combined have tended to constrict the supply and affordability of housing in San Francisco.

FISCAL FACTORS

Revenues to City

The site consists of five parcels in Assessor's Block 311. At the 1981-82 property tax rate of $1.19 per $100 assessed valuation, the property yielded about $38,060 in property tax revenues, distributed as shown in Table 2.

TABLE 2: DISTRIBUTION OF PROPERTY TAX REVENUES FROM PROJECT SITE IN 1981-82

Agency	Revenues*
City and County of S.F.	$30,210
S.F. Unified School District	4,560
S.F. Community College District	790
Bay Area Air Quality Management District	70
BART	2,430
TOTAL	$38,060

* Based on assessed valuation of $3,198,473 and the 1981-82 composite tax rate of $1.19 per $100 of assessed valuation (assessed valuation equals the market value).

SOURCE: Tax Collector, City and County of San Francisco

Average annual earnings of employees at the site are estimated at $15,715./5/ Payroll tax is paid on the earnings of about 170 employees at the site. At a rate of 1.5% of total earnings, annual payroll tax revenues total about $40,000./6/

The average office worker in downtown San Francisco is estimated to make taxable expenditures of $1,070 annually in the central business district. Sales tax revenues allocated to the City and County of San Francisco are 1.25% of taxable sales. Therefore, the sales tax revenues generated by existing employee expenditures are about $2,900 a year./7/ The City and County of San Francisco also derives about $14,300 in sales tax revenues from retail sales at the project site./8/

Retail sales and employee expenditure sale tax revenues generated by the 1/2% BART sales tax are about $6,900 a year./9/ Of that amount, BART receives $5,175 directly, and the remaining $1,725 is distributed by the Metropolitan Transportation Commission among BART, Muni, and AC Transit.

San Francisco Federal S&L pays a gross receipts tax on their rental income from the existing buildings on the site. Total annual rental income is about $117,000. At a tax rate of 0.3% (Ordinance 245-68, Section 4.06), gross receipts tax revenue from the existing buildings are about $350.

Total general fund revenues from the non-BART sales tax, payroll tax, gross receipts tax, and non-bond property tax, to the City and County of San Francisco will total about $81,310 from the site in 1981. These revenues are paid into the City's General Fund.

Costs to City

The City incurs costs in servicing the existing buildings. Police, fire, and general government expenditures are supported primarily by the General Fund. Most street maintenance, street improvement, and traffic control costs are supported by other revenue sources such as fees, fines, and federal and state aid. Cutbacks in Federal and State aid may require the City to allocate General Fund revenues to maintain historic service levels.

NOTES - Employment, Housing, and Fiscal Factors

/1/ Department of City Planning, November 1, 1981 Statistical Update on Citywide Office Development.

/2/ Association of Bay Area Governments (ABAG) and Bay Area Council December, 1979, San Francisco Bay Area Economic Profile.

/3/ Association of Bay Area Governments (ABAG) April, 1981, Bay Area Office Growth, Working Papers on the Region's Economy, Number One.

/4/ Coldwell Banker, Office Vacancy Index of the United States, June 30, 1981.

/5/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, letter communication, December 18, 1980.

/6/ San Francisco Payroll Expense Ordinance No. 275-70.

/7/ Taxable expenditures within the central business district per office worker were $715 per year in 1974 (SPUR, p. 262). Between 1974 and 1981, average weekly earnings of finance, insurance, real estate and service workers rose nationally around 50%. Thus, sales tax revenue from employee expenditures is calculated as follows:

1.50 x $715 = $1,072; $1,072 x 0.0125 x 216 employees = $2,894.

/8/ $1,144,456 in annual retail sales x 1.25% = $14,306.

/9/ 216 employees x $1,072 taxable sales per employee x 0.005 = $1,158
plus $1,144,456 gross sales x 0.005 = $5,722.

E. DOWNTOWN FIRE PROTECTION SERVICES/1/

In recent years, the San Francisco Fire Department has experienced reduction in personnel due to budgetary cutbacks. Daily staffing has decreased by nearly 100 persons in the last six years, from about 410 in 1975 to 315 present. There are fewer companies and on the average, fewer firefighters per company.

Although it would appear that this reduction in staffing would result in more fires and an increase in multiple-alarm fires, Fire Department statistical records indicate otherwise.

While there is a greater number of emergency calls today than there were ten years ago (39,199 in 1980 as compared to 30,727 in 1970) there were 26% fewer building fires in the same period. In addition, greater alarms have been reduced by 35% in the same time period (see Tables 3 and 4, p. 37).

TABLE 3: SAN FRANCISCO FIRE INCIDENCE, 1970-1981

	Building fires	Multiple-Alarms	Total Alarms
1980-81	2816	90	39,199
1975-76	3793	146	34,416
1970-71	3830	139	30,727

SOURCE: San Francisco Fire Department

TABLE 4: SAN FRANCISCO FIRE INCIDENCE, 1960-1981

YEAR (FISCAL	1980-81	1979-80	1975-76	1970-71	1965-66	1960-61
TOTAL ALARMS	39,199	39,496	34,416	30,727	21,448	14,870
TOTAL BUILDING FIRES	2,816	2,898	3,793	3,830	3,476	3,364
MULTIPLE ALARM BUILDING FIRES:						
SECOND ALARMS	59	65	107	90	107	64
THIRD ALARMS	19	19	29	39	32	27
FOURTH ALARMS	7	7	6	9	7	6
FIFTH ALARMS	5	2	4	1	3	1
TOTAL MULTIPLE ALARMS	90	93	146	139	149	98
FIRE DEATHS	28	12	47	37	28	47

SOURCE: San Francisco Fire Department Annual Reports

Fire Department statistics by Fire District within the City are only available for 1977 to 1980 which is not a sufficient period of time within which to reliably discern trends. There is no indication in this data of any difference in trend in the downtown area compared to the rest of the City.

New high-rise structures in San Francisco have been required to conform with the Life Safety provisions of the San Francisco Building Code since 1975. These buildings must be provided with automatic fire sprinklers throughout, as well as with a fire alarm system, emergency power, and special elevator controls. Although the probability of a fire occurring in a new high-rise building is about the same as that for any pre-1975 building of similar size and occupancy, the chance of the fire spreading is reduced by the automatic operation of the fire sprinkler(s). In the majority of fires involving fully sprinklered buildings, a single sprinkler is adequate to control the fire because the sprinkler extinguishes flames before they spread.

The Fire Department attributes this decrease in building fires and multiple-alarm fires to increased fire prevention inspections by fire suppression units, improved abatement procedures for code violations by the Fire and Building Departments, greater focus on public safety educational programs, and the continuing replacement of older, more hazardous structures with modern construction that conforms to the life safety provisions of the building code.

Approximately 450 highrise buildings in San Francisco have been affected by retroactive state highrise regulations which have resulted in upgrading of their fire safety for the occupants as well as for the firefighters who must enter the buildings under emergency conditions.

NOTE - Downtown Fire Protection Service

/1/ Information contained in this section is from Bendix Environmental Research, Inc., Environmental Consultants and Fire Protection Engineers, confirmed by Emmet D. Condon, Deputy Chief, San Francisco Fire Department, September 24, 1981.

F. TRANSPORTATION, CIRCULATION AND PARKING

STREET AND FREEWAY SYSTEM

Local streets serving the site are shown in Figure 2, p. 11, and portions of the freeway system which provide regional access to the site are shown in Figure 1, p. 10. Access to the freeways connecting the Downtown with the East Bay, San Francisco Airport and the Peninsula is provided by pairs of ramps about one-half mile to the south (Fourth St. at Harrison St.), and about 2,500 ft. to the east (Mission St., at Main and Beale Sts.).

The site is within the Downtown Core automobile control area designated in the Downtown Transportation Plan of the Transportation Element of the San Francisco Comprehensive Plan./1/ This area is described in the Plan as "that intensely populated area which functions as a financial, administrative, shopping and entertainment center where priority must be given to the efficient and pleasant movement of business clients, shoppers and visitors; where a continuing effort should be made to improve pedestrian, transit and service vehicle access and circulation; where priority for the use of limited street and parking space within this core should be available for these functions; and where a continuing effort should be made to reduce the impact of the private commuter vehicle."

In the vicinity of the project site, Mission, Montgomery, Post, Kearny, Third, New Montgomery and Market Sts. are designated transit arterial streets in the Downtown Transportation Plan. In January or February 1982, the existing "diamond lane" on Post St. reserved for exclusive transit use during the a.m. peak period, will be removed. The Department of Public Works will install a bus bulb for passenger waiting and loading on Post St., east of the project site, extending roughly from the Mechanics' Institute to the Aetna Building./2/ Kearny and Montgomery Sts. are designated major thoroughfares in the Thoroughfares Plan./3/ Market, Mission, Kearny, Post and Montgomery Sts. are designated transit streets in the Mass Transit Plan.

The intersections of Post and Kearny Sts., Market and Kearny/Third Sts., and Market and Post/Montgomery Sts. are controlled by traffic signals. The signals operate on a pretimed basis with green time allocations in proportion

to peak and off-peak traffic volumes. The signals at the Post/Montgomery St. intersection operate as part of the Montgomery St. pedestrian scramble system; at this intersection, a portion of the green time is used only for pedestrian movements, thus reducing the green time available for vehicle movements.

Existing traffic volumes on streets in the project vicinity indicate that the highest volumes during the p.m. peak hour are on the streets leading to the freeways. A capacity analysis of the intersections adjoining the project indicates that the intersections of Kearny and Post Sts., and Market and Third/Kearny Sts. are operating during the peak hour at vehicular Level of Service B or better, (see Appendix E, Table E-1, p. 192 for definitions and volume/capacity ratios for each vehicular Level of Service, and Table 5 for the peak-hour volume-to-capacity ratios). Few drivers require more than one green indication to cross these intersections. The intersection of Market and Montgomery/Post Sts. and the two intersections at the freeway ramps serving the project vicinity (the intersections of Mission and Beale Sts., and Fourth and Harrison Sts.) are operating at Levels of Service C and C/D.

TABLE 5: ESTIMATED EXISTING PEAK-HOUR VOLUME-TO-CAPACITY RATIO AT INTERSECTIONS IN THE VICINITY OF THE PROJECT SITE

Intersection	Ratio*	Level of Service**
Kearny and Post	0.54	A
Market and Third/Kearny	0.62	B
Market and Montgomery/Post	0.81	C/D
Fourth and Harrison	0.73	C
Mission and Beale	0.81	C/D

* Volume/capacity, where capacity is at Level of Service E.
** See Table E-1, p. 192 for definitions of Levels of Service.
Based on manual intersection counts made by TJKM on November, 6, 16, and 17, and April 28 and May 4, 1981.

SOURCE: TJKM

PARKING

A survey analysis of existing long-term (greater than 6 hours), commercially available off-street parking in the area bounded by Harrison, Third, Folsom, Fourth, Howard, Fifth, Market, Powell, Pine, Stockton, California, Grant, Sacramento, Kearny, Clay, Battery, Sacramento, Davis, California, Drumm, Main, Howard, Beale, Folsom and First Sts. was conducted (see Figure 12, p. 42)./4/ This area corresponds to a maximum walking distance of 2,000 ft. from the project site. In this area there is a total of approximately 15,620 long-term, commercially available off-street spaces, of which 1,860 were vacant on a daily basis at the time the survey was conducted. This is equivalent to an average occupancy of approximately 88%. Approximately 97% of the vacant spaces are over 500 ft. away from the project site.

On-street parking on Post St. between Kearny and Market Sts. consists of a.m. and p.m. peak period towaway metered spaces. The Kearny St. frontage is towaway between 7:00 a.m. and 6:00 p.m. Observations conducted during daytime hours indicates almost constant use of the metered spaces adjacent to the project frontage./5/

PEDESTRIAN MOVEMENTS

The sidewalks and crosswalks serving the project site have moderately high levels of pedestrian activity during the noon hour and the morning and evening peak periods (see Appendix E, Table E-2, p. 193 for a description of pedestrian flow regime and pedestrian levels). Appendix E, Table E-3, p. 193, shows 15-minute peak pedestrian flows and operating conditions on the sidewalks fronting the project site. The Post St. sidewalk pedestrian flows operate in impeded conditions during the noon hour. The Kearny St. pedestrian flows operate in impeded conditions during the p.m. peak. All other conditions analyzed show pedestrian flows operating in unimpeded conditions.

Pedestrian activity around the site during the peak periods of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. is directed primarily from and to transit and parking facilities. The pedestrian flows during the p.m. peak are generally

LEGEND

Study Area Boundary

Off-Street Commercial Parking

FIGURE 12: Parking Locations in the Survey Area

SOURCE: TJKM, Transportation Consultants

more intense than those in the a.m. peak. Noon-hour flows are generally equivalent to or more intense than the p.m. peak flows.

Crosswalk flows across Kearny St. operate in impeded conditions during the p.m. peak. The Post St. crosswalk operates in unimpeded conditions during the p.m. peak.

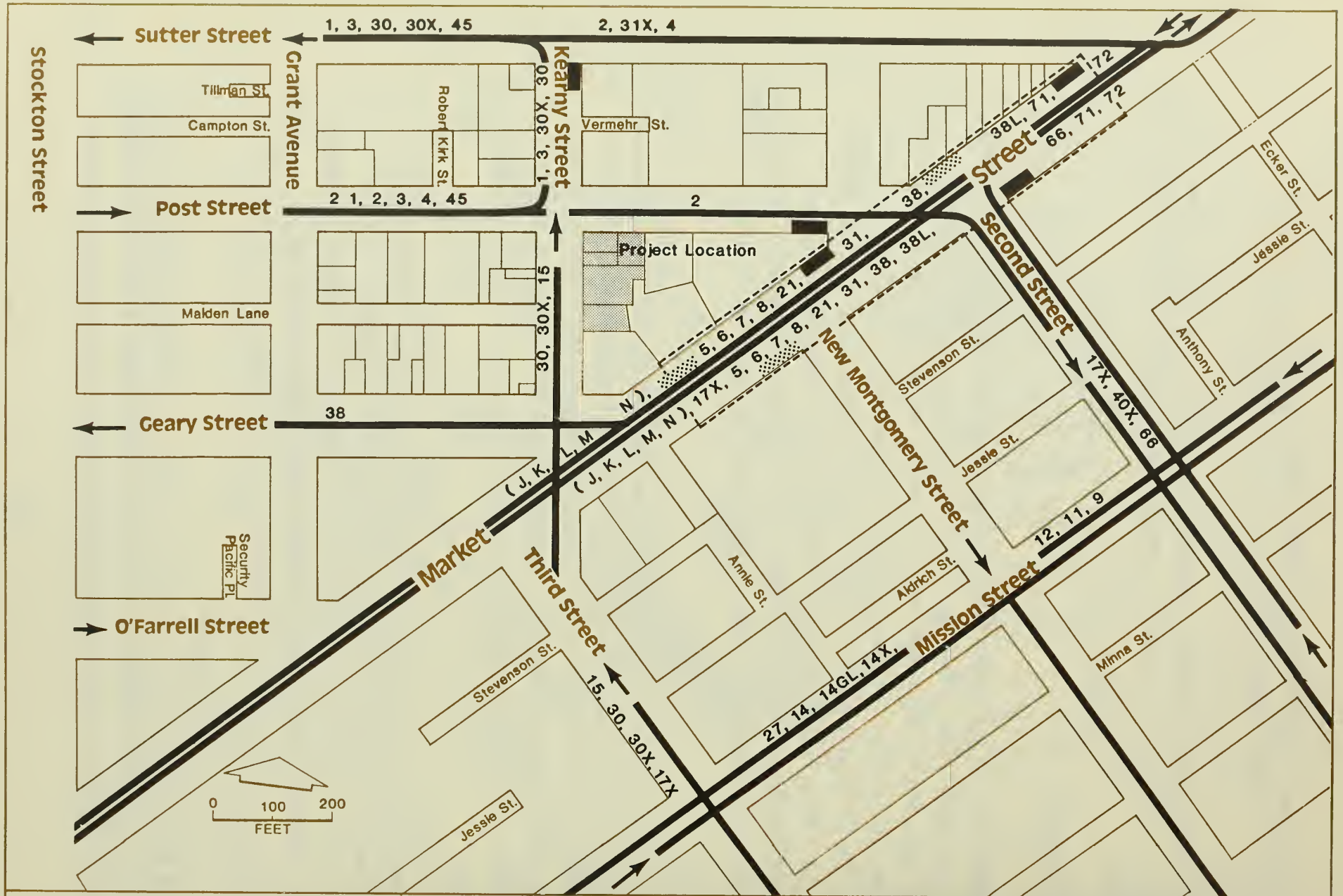
TRANSIT SERVICE

The project site is served by San Francisco Municipal Railway (Muni) electric trolley and motor coach lines providing radial service to and from the downtown area and by light-rail vehicle lines from the Montgomery Station of the Market St. subway. Regional service is provided to the East Bay by the Bay Area Rapid Transit District (BART) from the Montgomery Station, and by A-C Transit motor coaches from the Transbay Transit Terminal located on Mission St. between Fremont and First Sts. Main routes and locations of Muni stops and subway stations in the project vicinity are shown in Figure 13, p. 44.

Service to the Peninsula is provided by the Southern Pacific Transportation Company (SP) from a train terminal at Fourth and Townsend Sts., and by the San Mateo County Transit District (SamTrans) which has bus routes and stops along various streets in the area, primarily on Mission St. west of First St., and by BART, which effects transfers to SamTrans routes at the Daly City Station.

The Golden Gate Bridge Highway and Transportation District (Golden Gate Transit) provides peak-period bus service to Marin and Sonoma counties from stops on Pine and Sansome Sts., four blocks northeast of the site, from the Transbay Transit Terminal and from stops along Howard and Folsom Sts. Golden Gate Transit provides ferry service to terminals in Larkspur and Sausalito from the Ferry Building.

Although not traditionally considered as transit, car and van pooling is becoming a substantial form of paratransit. Golden Gate Transit operates a van pooling program to North Bay areas not served by existing motor coach



LEGEND

- Motor Coach, Trolley Coach Stop
- Existing Surface Street Car Stop
- Market Street Subway Station
- Muni Routes

J, K, L, M, N - Light Rail Vehicle Lines

FIGURE 13: Muni Routes and Transits Stops in the Project Vicinity

SOURCE: TJKM, Transportation Consultants

routes. The RIDES car pooling program, operated under the auspices of a nonprofit, publicly funded corporation, provides consulting and matching services to help establish Bay Area van and car pools. Also, independently owned and operated jitneys operate on Mission St. during peak hours.

Muni, SamTrans and BART exceed their seated capacities during peak hours but operate at less than 100% of total capacity. Although other transit agencies operate at less than seated capacity during a one-hour period, specific routes experience loadings in excess of seated capacity for periods from 5 to 30 minutes during the peak hour. In the experience of most agencies, the p.m. peak is more intense than the a.m. peak. (See Appendix E, Tables E-4 and E-5, pp. 194-196, for a more detailed breakdown of transit ridership characteristics, and for list of persons from whom Muni and regional transit information was obtained.)

NOTES - Transportation, Circulation and Parking

/1/ San Francisco City Planning Commission, Resolution 6834, April 27, 1972, Comprehensive Plan, Transportation Element, p. 25.

/2/ Glenn Erickson, Transit Preferential Street Coordinator, Department of City Planning, telephone communication, November 12, 1981.

/3/ The Transportation Element of the Comprehensive Plan (p. 40) defines major thoroughfares as "crosstown thoroughfares whose primary function is to link districts within the City and to distribute traffic away from and to the freeways; these routes are generally of citywide significance and of varying capacity depending on the travel demand for the specific direction of adjacent uses."

/4/ The parking inventory survey was conducted by TJKM on November 5, 6, 7, 10, 13, and 17 1980 and January 20-23 and 26, 1981. The study was conducted by TJKM after the start of excavation for the George R. Moscone Convention Center (August 10, 1978) and Crocker Tower and Lick Place Galleria and the associated loss of all parking spaces in the Third-Fourth-Howard-Folsom St. block and some in the block to its north, and the loss of parking in the Montgomery-Post-Kearny-Sutter St. block.

/5/ The on-street parking study was conducted by TJKM on Wednesday, April 22, 1981.

G. AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates an air quality monitoring station approximately 2.5 miles to the southeast of the site. A three-year summary of the data collected at this station and the corresponding air quality standards appear in Appendix F, Table F-1 p. 199.

San Francisco's air quality, in general, is the least degraded of all the developed portions of the Bay Area. The prevailing westerly and northwesterly winds tend to carry pollutants from the City toward the East Bay and South Bay. Annual fluctuations in air quality are due to a combination of meteorological factors, which vary unpredictably, and pollutant emissions, which have been decreasing in the Bay Area and are expected to continue to do so in the near future. Highest annual pollutant concentrations in San Francisco, while exhibiting alternating fluctuations due to meteorology, have shown an overall improvement during the 1970 - 1980 period. However, annual numbers of days of non-compliance of air quality standards, while exhibiting similar fluctuations, have not shown any clear overall trend during the same period. In 1980 six days of non-compliance of the particulate standard occurred./1/

The entire Bay Area Air Basin has been designated by the California Air Resources Board as a non-attainment area for ozone (oxidant) and carbon monoxide, and San Francisco is non-attainment area for particulate (i.e., the standards for these pollutants are now and are expected to continue to be exceeded). A regional Air Quality Plan was recently adopted, establishing control strategies to attain and maintain these standards by 1982 or 1987./2/

NOTE - Air Quality

/1/ California Air Resources Board, Technical Services Division, Air Quality Data, for the years 1977-1980.

/2/ Association of Bay Area Governments, BAAQMD, and Metropolitan Transportation Commission, January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area Environmental Management Plan. The Federal Clean Air Act Amendments of 1977 mandate that the ozone, carbon monoxide, and particulate standards be attained by 1982, although a five-year extension to 1987 is possible in the case of ozone and carbon monoxide.

H. ENERGY

Pacific Gas and Electric Company (PG&E) furnishes electricity and natural gas to the City and County of San Francisco. Gas distribution mains and underground electric facilities serve the existing structures on the site. PG&E currently obtains a portion of its electrical energy from renewable resources including geothermal and hydroelectric power, but plans to meet new demands for energy primarily by increasing the use of non-renewable coal, oil, natural gas and nuclear fuels. Among the new power plants which are anticipated by PG&E are the Diablo Canyon nuclear power plant in San Luis Obispo County, the proposed Montezuma coal-fired power plant in Solano County and the Portrero Unit 7 natural gas fired generator in San Francisco. In response to a directive of the State Public Utilities Commission, PG&E will also be required to increase generating capacity from co-generation projects, which generate electricity in combination with industrial processes that already use fossil fuels as a source of heat. PG&E also anticipates the construction of additional geothermal plants and increased purchases of electricity from other utilities; this power would come primarily from hydroelectric and nuclear power plants in the state of Washington.

Existing annual energy consumption of the five buildings on the project site is approximately 1.6 million kilowatt-hours (KWH) of electricity, 0.1 million cubic feet (cu. ft.) of natural gas, and 1,000 pounds of steam from the PG&E Steam District Heating System, for a total of 16.1 billion Btu-at source/yr./1/ These figures are based on actual consumption figures during 1980 for all buildings on the site, except for the Sutter's Mill restaurant for which records were not available./2/ There are no operating solar collectors in the immediate project vicinity.

NOTES - Energy

/1/ Btu, British thermal unit, is a unit for measuring energy. Technically, it is the quantity of heat required to raise the temperature of 1 pound of water 1 degree F at sea level. The term 'at-source' means that ajustments have been made in the calculation of the Btu energy equivalent to account for losses in energy which occur during generation and transmission of the various forms of energy as specified in: ERCDC, 1977, Energy Conservation Design Manual for New Nonresidential Buildings, Energy Resources Conservation and Development Commission, Sacramento, CA; and Apostolos, J.A., W.R. Shoemaker,

and E.C. Shirley, 1978, Energy and Transportation, Sacramento, CA (Project 20-7, Task 8).

/2/ Based on monthly 1980 PG&E bills for buildings on the project site located at 46 Kearny St., 54 Kearny St., 60 Kearny St., and 79 Post St.

IV. ENVIRONMENTAL IMPACTS

A. LAND USE AND ZONING

The project would be responsive to the objective stated in Section 210.3 of the City Planning Code that the C-3-O, Downtown Office District play a leading national role in finance, corporate headquarters and service industries, and serve as an employment center for the region. The Code further states that unrelated uses are excluded in order to conserve the supply of land in the core and its expansion areas for further development of major office buildings.

The proposed project would continue use of the site as headquarters for San Francisco Federal Savings and Loan (S&L), which would address Objective 6 of the Commerce and Industry Element of the Comprehensive Plan to "maintain and improve San Francisco's position as a prime location for financial, administrative, corporate, and professional activity", and Policy 4 of Objective 6 to "maintain a compact downtown core".

Proposed office uses would be similar to uses currently occupying the site and to uses facing the site on the north, east, and south sides. The amount of retail space provided at the site would be reduced; the number of retail establishments could be reduced from the present four to as few as one, depending on the number of tenants that would occupy the proposed 1,600 sq. ft. of retail space. Present ground-level uses include a restaurant/bar; two clothing stores and a camera store. The effect of this change on the number and diversity of small-scale retail uses in the general area would be reduced by the construction of the three-level retail galleria in the Crocker project (EE78.298) across from the project site on Post St.

The proposed building height of 230 ft. would be 270 ft. lower than the maximum permitted height of 500 ft.; the building length of 162 ft. would be 8 ft. less than the maximum permitted length of 170 ft., and the maximum

diagonal dimension of 190 ft. would be 10 ft. less than the maximum permitted diagonal dimension of 200 ft.

The basic floor area ratio (FAR) of 14:1 would allow development of about 199,440 gross sq. ft. of building area on the proposed building site. The project building area of about 199,100 gross sq. ft. is about 340 ft. less than the permitted FAR. The project would comply with the basic use, height, and bulk provisions of the City Planning Code. Discretionary review by the City Planning Commission would be required by Resolution 8474, requiring review of all projects in the Downtown.

The project would provide about 23 long-term parking spaces for employees of San Francisco Federal S&L. This provision would not be responsive to Objective 1, Policy 4 of the Downtown Transportation plan which "discourages long-term parking spaces in and around downtown".

B. URBAN DESIGN AND VISUAL ASPECTS

The height and scale of the project would relate visually to the two buildings adjoining it. The roof of the main structure, at the top of the 16th floor, would be approximately the same height as the Kearny St. frontage of the American Savings and Loan Building at 690 Market St. adjoining the site on the southern boundary (see Figure 5, p. 15). The continuous 11th floor balcony terrace, extending across the Kearny and Post St. facades, would continue the roofline of the Mechanics' Institute adjoining the site to the east (see Figure 4, p. 14). A first-floor belt course would be included in the building design to visually link the lower cornice line of the Mechanics' Institute and American Savings and Loan Building to the new structure.

The 16-story building would be higher than existing buildings on the site, ranging from three to seven stories, but would be transitional in height between the 40-story Crocker Tower and the 38-story Aetna Building to the north and east, respectively, and the lower buildings to the west, ranging from three to 44 stories in height.

The clear glass windows and light-colored cladding of the building would contrast with the darker Aetna Buildings and Crocker Towers, and would be more in harmony with the light-colored, older buildings in the project vicinity to the west, than to the Aetna and Crocker Buildings.

The project could reduce visual interest to pedestrians by replacing five, older buildings of different designs and exterior treatments with a single new building.

The proposed project would reduce short-range, north-facing views of the skyline from Market St. Long-range views to Nob Hill and Telegraph Hill would be obstructed by the 40-story Crocker Tower. Existing east-facing views toward the Ferry Building and the Bay from the 7th- through 15th-floor windows of the 15-story American Savings and Loan Building would be reduced; the portion of the project adjacent to the upper floors of the American Savings Building would be stepped back, landscaped and reduced in height. The project would eliminate west-facing views from the upper two floors of the nine-story Mechanics' Institute. Short-range views to the south from the upper levels of buildings opposite the site on Kearny St., now impaired by the 38-story Aetna Building, would be further reduced by the project.

Short-range views to the site from Union Square down Maiden Lane to Kearny St. would be altered by the proposed entrance alcove on Kearny St. that would be landscaped and stepped back at the uppr levels. Opposite Maiden Lane, the building would be stepped back from the 11th to the 14th floors with planted terraces on each step back level. The top three floors of the building (14-16) would not extend over this area (see Figure 14, p. 52). This element of the building would replace the three-story restaurant/bar, Sutter's Mill, which presently marks the visual termination of Maiden Lane and would block from view the rear walls of the 660 Market St. building (see Figure 10, p. 28), and the sign scaffolding on top of 625 Market St. The portion of the building opposite Maiden Lane would relate visually to the redesign of that thoroughfare proposed by the Maiden Lane Merchants Association and building owners.

FIGURE 14: View of Project from Union Square down Maiden Lane

A design feature such as a commissioned work of art would be incorporated into the Kearny St. public entrance alcove, providing pedestrian interest and scale when viewed from Maiden Lane and from Kearny St. Incorporation of art in or near new buildings is a proposed development requirement contained in the Department of City Planning, May 1981, Guiding Downtown Development; this document proposes general design guidelines and controls for new development in the downtown C-3 Planning Code Use Districts.

The entrance alcove and street-level portion of the building would be designed with a finish and detail that would provide visual interest at the pedestrian level, and that would resemble the facade treatment of older buildings in the vicinity. The Kearny St. entrance to the building would be facing Maiden Lane, and give emphasis to its position as the axial termination of the east end of Maiden Lane. Another lobby entrance would be located on Post St. and would connect with the Kearny St. entrance, providing a mid-block corridor with a pedestrian scale and visual amenities not yet designed in detail. In the event that a pedestrian connection to Crocker Plaza becomes possible in the future from the adjoining 660 Market St. Building, a wall of the lobby could be opened to provide for a through-block connection.

The Urban Design Element of the San Francisco Master Plan states City objectives and policies pertaining to urban design. The relationships between these policies and the design of the proposed project are summarized in Table 6.

Shadow Effects

Light and shadow patterns on streets, sidewalks, and plazas in the project vicinity are cast predominantly by the nearby Aetna Building and Crocker Tower, which is presently under construction across Post St. Portions of Post, Sutter, Montgomery and Kearny Sts. are or will be shaded by these structures throughout the day at all seasons of the year. In addition portions of the proposed One Montgomery St. rooftop plaza (to be constructed on top of the Crocker banking hall at One Montgomery St.) and three-level Lick Place Galleria (presently under construction) would be shaded by the Aetna Building and Crocker Tower throughout the afternoon year round.

TABLE 6: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT

Applicable Urban Design Policies	Relationship of Project to Applicable Policies
A. Policies for City Pattern	
1. Policy 1. "Recognize and protect major views in the City, with particular attention to those of open space and water." (p.10)	The 16-story building would be approximately the same height as the 1908 addition to the adjacent 690 Market St. Building. No views of the Bay or other open space would be blocked because there are intervening buildings of 38 to 44 stories.
2. Policy 3. "Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts." (p.10)	The 16-story project and the adjoining building at 690 Market St. would represent a transition between taller buildings to the east in the Financial District and lower buildings in the Union Square Retail Distict to the west and would help to identify the boundary between the two districts.
B. Policies for Conservation	
3. Policy 4. "Preserve notable landmarks and areas of historic or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development. (p.25)	The two "B" rated buildings would be razed. Stained glass and possibly other details from the Maskey Building would be preserved and incorporated into the new building. The three non-rated buildings would also be razed.
4. Policy 6. "Repeat the character of older development nearby in the design of new buildings." (p.25)	See 2 and 3 above. The choice of clear glass and light-colored cladding would be similar to older buildings on the west side of Kearny St.

* City and County of San Francisco, 1971, Comprehensive Plan, Urban Design Element. Page references are shown in parentheses.

TABLE 6: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

C. Policies for Major New Development	
5. Policy 1. "Promote harmony in the visual relationship and transitions between newer and older buildings." (p.36)	See 4 above. The first-floor belt course would visually link and complement the cornice lines of the Mechanics' Institute and the American Savings and Loan Building to the new structure. An 11th-story balcony running continuously along the facade would tie in with and give emphasis to the roofline of the Mechanics' Institute adjoining the project on the east.
6. Policy 2. Avoid extreme contrasts in color, shape, and other characteristics which will cause new buildings to stand out in excess of their public importance." (p.36)	See 4 and 5 above.
7. Policy 5. Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development." (p.36)	The building height of approximately 230 feet would be subordinated in the overall streetscape by buildings 500 or more feet in height to the north and east, and would be more compatible in scale to the adjacent American Savings and Loan Buildings and to the lower buildings to the west than to the 527-ft.-high Aetna Building to the east and the Crocker Tower to the north.
8. Policy 6. "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (p.36)	As indicated in 2 and 4 above, the proposed building would be in scale with other adjoining buildings on the project block and would serve as a transition between the nearby 500-foot buildings in the Financial District and the generally lower buildings in the Union Square Retail District to the west.

* City and County of San Francisco, 1971, Comprehensive Plan, Urban Design Element. Page references are shown in parentheses.

TABLE 6: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

D. Policies for Neighborhood Environment	
9. Policy 13. Improve pedestrian areas by providing human scale and interest. (p.57)	The building facade would be continuous along the Kearny and Post St. frontages, punctuated by treatment on the axis of Maiden Lane which would include a two-story, 30-ft.-high entrance alcove and setbacks at the 11th through 14th floors. The finish and detail of the pedestrian level of the building and of the entrance alcove would provide visual interest at the pedestrian level and would resemble the treatment of the facade of older buildings in the vicinity.

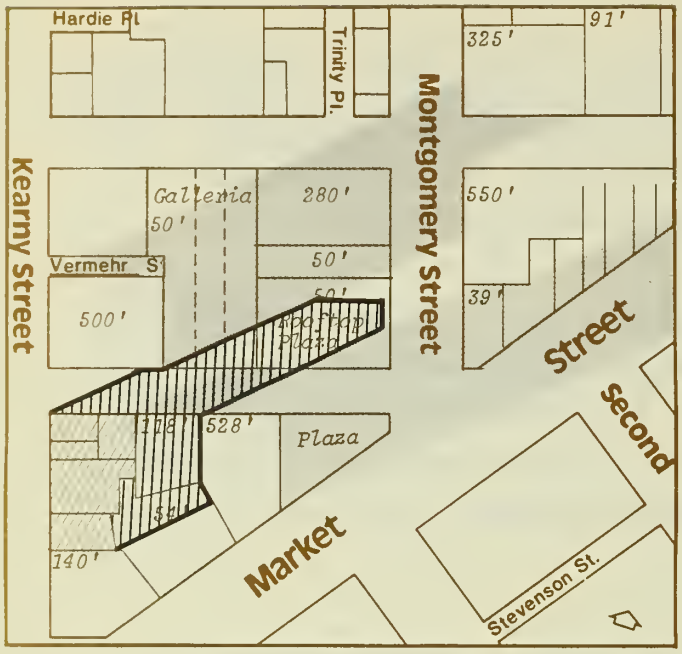
* City and County of San Francisco, 1971, Comprehensive Plan, Urban Design Element. Page references are shown in parentheses.

The project, in replacing low-rise structures on the site, would create more extensive shadow patterns than exist at present. The proposed structure would cast shadows on nearby streets, buildings, and open spaces, varying with time of day and season of the year. During morning hours, the structure would cast shadows to the northwest and west, shadowing buildings along Kearny St.

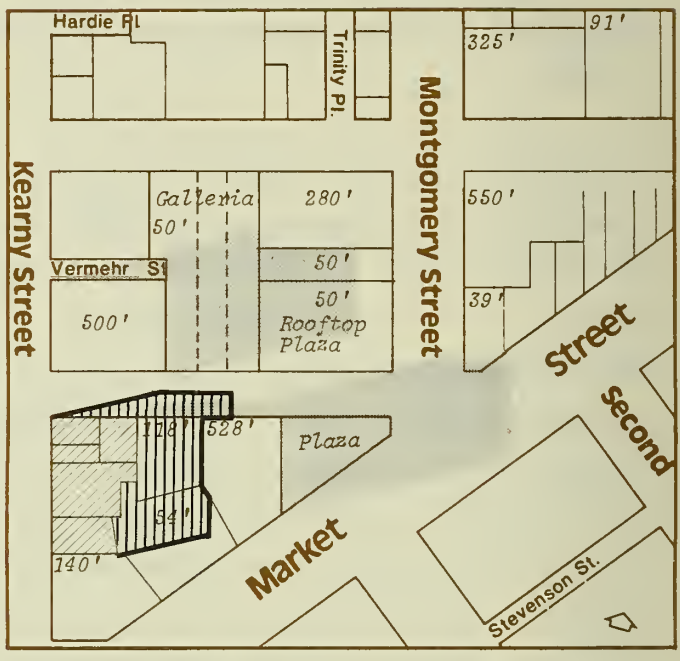
From midday on, the shadows of the proposed structure would be subordinated by shadows cast by the taller Crocker Tower and the Aetna Building. Shadowing of the glass-dome roof of the three-level Lick Place Galleria and the rooftop plaza would occur throughout the year during afternoon hours and winter midday hours from both the Crocker Tower and the Aetna Building (see Figure 15, p. 58).

The project would not shade the Lick Place Galleria or One Montgomery St. rooftop plaza during the noon hour at any time of the year; nor would it shade the Crocker Plaza on Market St. at any time because of the intervening Aetna Building. The project would shade up to approximately 50-60% of the galleria and rooftop plaza adding to the shading already caused by the Crocker Tower and the Aetna Building. During afternoon hours in the winter months, the project would eliminate a sunlight corridor and complete the shadowing of the retail galleria and Crocker rooftop plaza across Post St. not previously blocked by the Crocker Tower and Aetna Building. During winter months the project would contribute to the galleria being completely shadowed from about 1:00 to 3:30 p.m. and the rooftop plaza being completely shadowed from about 3:00 to 4:00 p.m.

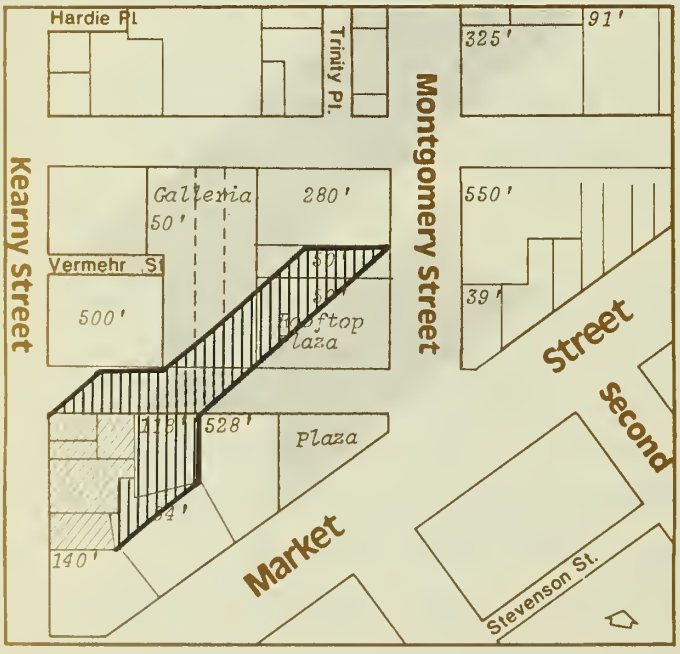
The project would also contribute to the partial shadowing of the galleria and rooftop plaza in the spring and autumn months; at no time during the spring and autumn would the galleria or rooftop plaza be completely shaded as a result of the project. The project would contribute to the shadowing of the galleria from 1:00 to 2:30 p.m. At these times the galleria would be about 80% in shadows with the project contributing to about 15% of the area in shadows. Project coverage of the rooftop plaza would reach a maximum of about 60% at 3:00 p.m. Contributions of the project to shadowing of the rooftop plaza would occur from about 2:30 to 3:30 p.m. The project would not shade the rooftop plaza and the galleria in the afternoon hours during summer months.



3 P.M. Mid-March and Mid-September



3 P.M. Mid-June



3 P.M. Mid-December

LEGEND

Existing Shadows

Project Shadow

----- Location of Glass Dome on Lick Place Galleria

FIGURE 15: Period of Maximum Shadow Effects on Crocker Rooftop Plaza and Lick Place Galleria

During early morning hours in late spring through summer, the project would cast shadows down Maiden Lane. This shadow appearance would range 6:00 a.m. (Standard Time, ST) in late April, 7:15 a.m. (Daylight Savings Time, DST) in late May, 7:30 a.m. (DST) in late June, 7:15 a.m. (DST) in late July and lastly 7:00 a.m. (DST) in late August. The duration of early morning shadows cast on Maiden Lane would be approximately 1 hour.

Wind Effects

According to the wind-tunnel study described in Section III.B., pp. 25-26, and incorporated as Appendix B, p. 172, the project would increase northwesterly winds by 4% to 28% along Kearny St. south of the site. Increases from 3% to 22% are predicted along Post St., east of the site. Maximum wind speeds in this area would not be significantly affected and would continue to range from moderate to high. Northwesterly wind speeds would be decreased from about 4% to 11% on Maiden Lane near Kearny St., on sidewalks adjacent to the site, and along Post St. west of the Post/Kearny St. intersection.

The project would increase westerly winds by about 2% along the south side of Post St. east of the site. Wind speeds would also be decreased by about 2% to 10% south of the site along Kearny St. At the Post and Montgomery/Market Sts. intersection, wind speeds would be reduced by 4% to 8%. Wind speed reductions ranging from about 2% to 13% would occur at the Post/Kearny Sts. intersection.

C. CULTURAL AND HISTORIC ASPECTS

The project would eliminate all of the seventy-year-old buildings on the site. The project would remove two buildings on the City Planning Commission's list of Architecturally and/or Historically Significant Buildings; these buildings, the Maskey Building and 60 Kearny St. Building, were rated "B" by the Foundation for San Francisco's Architectural Heritage. The building at 60 Kearny St. is occupied by the project sponsor, San Francisco Federal Savings and Loan Association, in offices which extend into two of the unrated buildings. The Maskey Building at 46 Kearny St. is currently under consideration by the Landmarks Preservation Advisory Board for

designation as a City landmark; the Board's recommendation is currently scheduled to be heard by the Planning Commission at its meeting on January 28, 1982.

D. EMPLOYMENT, HOUSING, AND FISCAL FACTORS

The project would result in the demolition of the five existing buildings on the site which include a total of about 58,900 gross (51,630 net) sq. ft. of office space, 11,000 net sq. ft. of retail space, 4,620 net sq. ft. of savings and loan branch space, and 3,700 net sq. ft. of storage space. New construction on the site would include approximately 158,200 net sq. ft. of office space, 5,000 net sq. ft. of savings and loan branch space and 1,600 net sq. ft. of retail space for a net increase of about 122,190 sq. ft. of office space, 380 sq. ft. of savings and loan branch space and the net loss of about 9,400 sq. ft. of retail space (see Table 7, p.61). Upon initial occupancy, San Francisco Savings and Loan Association would occupy 45,000 net sq. ft. or approximately 25% of the proposed leasable floor area.

San Francisco Federal would initially occupy about 20% more net leaseable office floor area than it currently occupies at the project site. Because the new office space would be consolidated into one building, and would be more efficiently designed than the floor area currently occupied by San Francisco Federal, the 20% increase in net leaseable floor area would represent a substantial increase in useable floor area for savings and loan operations.

Four retail/restaurant establishments employing 20 people, nine offices employing 19 people, and three civic organizations employing nine people would be displaced from the site. San Francisco Federal S & L would relocate their current estimated 170 employees to other offices in San Francisco during project construction.

Relocation

Sixteen businesses employing around 50 persons would be displaced from the project site. Seven of these sixteen businesses have been surveyed, representing about 80% of the retail employees and 60% of the (non-S.F.

Federal) office employees at the site. Presently, none of these businesses have any relocation plans. Most of the tenants indicate that the effects of relocation would include time spent in searching for a new location, and costs of moving and possible renovation. Another concern expressed was the anticipated difficulty in finding a comparable location with an affordable rent.

TABLE 7: EXISTING AND PROPOSED USES AT THE PROJECT SITE, BY OCCUPANCY
(Net Leaseable Sq. Ft.)

	Existing Uses		Proposed Uses*		Net Change In Use
	Occupied by:		Occupied by:		
	S.F. Federal S&L	Other Tenants	S.F. Federal S&L	Other Tenants	
Savings Branch	4,620	0	5,000	0	+380
Retail/ Restaurant	0	11,000	0	1,600	-9,400
Office	31,510	4,500	40,000	118,200	+122,190
TOTAL	36,130 **	15,500	TOTAL 45,000	119,800	+113,170

* Totals do not include approximately 23,200 net sq. ft. of basement and mechanical equipment area.
** Total does not include approximately 3,700 sq. ft. of storage space.

SOURCE: San Francisco Federal S&L; and Skidmore, Owings and Merrill.

Project-Related Employment

About 770 permanent jobs would be accommodated at the project site (see Table 8, p.62). The net increase in employment at the site would be approximately 550.

Bay Area Employment Multiplier Effects

Secondary employment and income impacts would result from permanent project employment because each employed person would generate additional employment

TABLE 8: PROJECTED PERMANENT EMPLOYMENT AT THE PROJECT SITE (Gross Sq. Ft.)

Employment By Type	Building Space	Approximate Space per Employee	Projected Number of Employees *
San Francisco Federal S&L - Savings Branch**	5,000	500	10
San Francisco Federal S&L - Office**	44,500	250	180
Other Office	141,650	250	570
Retail	1,600	500	3
Building Maintenance	199,100	30,000	7
		TOTAL	770

* Rounded to the nearest 10.
** The 190 projected employees represent an increase of 20 employees over San Francisco Federal's 170 existing employees due to expected employment growth over the two year construction period.

SOURCE: Environmental Science Associates, Inc.

by his or her demands for goods and services through the multiplier effect. Assuming that the new jobs accommodated as a result of the project were primarily in finance, insurance, and real estate (known as the FIRE sector), about 660 additional jobs in other sectors of the Bay Area economy would result from the growth of the FIRE industry./1/

The total number of Bay Area jobs that would be supported by growth in downtown employment due to the project would be about 1,210 (the 550 net project jobs plus the 660 jobs induced by the multiplier). Many of these jobs would serve the new employees (such as retail and restaurants workers, bicycle messengers) and would be located in San Francisco. The exact number of jobs that would be located in San Francisco, however, can not be quantified./2/ The project would require about 320 person-years of construction labor, which represents an average of about 160 full-time jobs throughout the two-year construction period. About 512 additional person-years of employment would be

generated in the Bay Area as a result of the multiplier effect of project construction./1/

Office

The proposed project, together with other major downtown office buildings under construction and approved (as of November 1981) would add approximately 8.9 million gross sq. ft. of office space. Another approximately seven million sq. ft. of office space is under consideration in the Department of City Planning as of December 1, 1981. These projects are in the preliminary stage of processing, and information was not sufficient enough to include them in cumulative analyses. If all were built, a total of about 16 million sq. ft. of office space would be added to the downtown area (see Appendix D, Economic and Housing Aspects, Table D-1, p. 190). The project would represent less than 1% of this total. Low vacancy rates together with rising rents suggest that supply has been less than demand.

If office employment in San Francisco continues to account for the same percentage of overall employment growth as it has in the past decade, projections by the Association of Bay Area Governments (ABAG) suggest that a net increase of about 1.25 million sq. ft. of office space will be required each year between 1980 and 1985 to accommodate that growth./3/ Demand for office space, however, could be even greater. The ABAG projection indicates that 1.25 million additional sq. ft. of office space will be occupied each year. This could be because no more than that would be demanded or because no more would be supplied. If occupancy is limited by supply, then more than 1.25 million sq. ft. of new space would be occupied each year if more than that amount were built. Low vacancy rates and the rate of rent increase suggest a backlog of demand. One commercial real estate broker foresees that by 1984, 9.1 million sq. ft. of office space will be available, of which about 2 million is presently unleased./4/

The growth of office space would continue the trend of regional growth in service-sector and office headquarters activities and employment. The larger, newer buildings would be occupied primarily by larger tenants and those with the ability to pay higher rents. Because rent levels are lower for older buildings, the space that becomes vacated by tenants relocating to newer

buildings could become available for tenants who cannot afford the higher rents for new office space./5/

HOUSING

Housing Demand

The project would result in a net increase in downtown employment of approximately 550 jobs by mid-1984. To the extent that the project would attract out-of-area employees and contribute to the formation of additional households by existing area residents, it would also contribute to an increase in local housing demand and a jobs/housing imbalance.

A residency survey of San Francisco Federal Savings and Loan employees conducted in early 1979 indicated that around 67% of the company's existing 170 employees at the project site lived in San Francisco, 19% in the East Bay, 12% on the Peninsula, and 2% in the North Bay./6/

Probable housing impacts caused by additional downtown employment is discussed in Five Fremont Center, Final EIR, (EE 80.268, certified March 12, 1981), pp. 85-91. This document is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319, and is hereby incorporated by reference into this EIR. Due to both the relatively high wages and housing prices in San Francisco, many people are attracted to the employment opportunities, but are unable to afford housing. By 1985, it is projected that cumulative San Francisco housing demand resulting from downtown office development will be around 17,000 units (see Appdendix D, Table D-2, p. 191). This demand would exceed the projected growth in City housing stock by an estimated 9,000 to 12,000 housing units. This total demand is expected to cause some downtown employees to seek housing in other Bay Area locations rather than San Francisco.

Residency patterns for new employees which would be generated by the project are based on housing assumptions developed by the San Francisco Department of City Planning in a memorandum entitled, "Housing Requirement for Office Development in San Francisco", July 1981, and by approximate residency patterns of downtown office employees surveyed for five other recent Downtown

EIRs (see Appendix D, Table D-2, p. 191). It is assumed that about 40% of new employees would reside in San Francisco, 18% on the Peninsula, 30% in the East Bay, and 12% in the North Bay. The project would generate net demand for about 125 units of housing in San Francisco (including the 20 S. F. Federal employees who would be added to the company's work force during the two-year construction). This estimate is calculated by assuming office use generates one employee for each 250 gross sq. ft. of floor area, 40% of all employees will desire to live in San Francisco, and 1.8 working adults occupy each housing unit. The formula was not applied to the existing 170 San Francisco Federal employees because their housing location is assumed stable and their jobs would not be permanently relocated.

The amount of housing demand created by the proposed project would be about 1% to 2% of the City's projected housing growth from 1980 to 1985. Without detailed data on San Francisco housing demand (such as household's ability to pay, preferences, etc.), no quantification of the effects on the City's housing prices resulting from housing demand created by the proposed project is possible.

Housing Affordability

Published information on office workers in the Bay Area indicates that the 1980 annual salary for support personnel ranges from $7,800 to $26,000 and that for clerical personnel ranges from $7,800 to $30,000./7/ Mean 1980 annual wage information is not available for most professional occupation categories with the exception of computer system analysts, who earn $25,740, and drafters, who earn $20,000 /7/; there is no known published data on income levels specifically in San Francisco. An October 1981 survey of 60% of the tenants at 601 Montgomery St., a nearby office building, revealed that about 34% of the office workers are professionals with salaries ranging from $21,000 to $300,000 (average $90,000); 36% are middle management personnel with salaries ranging from $12,000 to $70,000 (average $45,000), and 30% are secretarial/support workers with salaries ranging from $10,000 to $35,000 (average $19,200)./8/

Assuming the non-San Francisco Federal employee composition of the proposed project would resemble that of the 601 Montgomery St. Building, 35% of a

buyer's gross monthly income is allowed for mortgage payments, and the terms of a 30-year loan are a 20% down payment and an 18% interest rate, 34% of the project office workers would be able to afford monthly mortgage payments of $615 to $8,750 (average $2,600), 36% could afford from $350 to $2,040 (average $1,315), and 30% could afford from $290 to $1,020 (average $560). On the average, San Francisco households have an estimated 1.8 working adults per unit; however, the exact number of workers per household by job classification has not been determined. Higher housing prices probably cause more workers, particularly low- and moderate-income workers, to live together in one household in order to afford housing. Therefore, assuming 1.4 workers per household for professional and 2.0 workers per household for support and clerical, 34% of the project worker households could afford housing priced from $71,000 to $1,016,000 (average $305,000), 36% could afford housing from $58,000 to $338,000 (average $218,000), and 30% could afford housing from $48,000 to $169,000 (average $93,000). Assuming 1.8 workers per household for middle management and secretarial/support workers yields average affordable housing prices of $196,000 and $84,000, respectively, for these categories. Assuming an expenditure of 25% of gross monthly average income for rent and an average of 1.8 workers per household, middle management and support workers could afford monthly rents of about $1,700 and $700, respectively.

October 1981 data from the San Francisco Board of Realtors show that the average selling price of a home in the City in 1981 is $151,203, and ranged from $95,000 to $236,750 for homes sold in the week of October 1, 1981./9/ The ability to purchase a home at the October 1981 average price of $151,203 would require an annual income of about $35,000 for each worker in a household of 1.8 workers.

FISCAL FACTORS

Revenues to City

Based on an estimated fair market value of $31 million, the property would generate around $310,000 from the 1981-82 $1 per $100 non-bond property tax rate.

The building would also generate property tax revenues to retire bond debts. The tax rate at which these revenues would be generated in 1984 will depend on the amount of principal and interest payments due in that year and the total assessed value of property in San Francisco. The rate in 1981-82 fiscal year is $0.19 per $100 of market value. If that were still the rate in 1984, when the building would be occupied, revenues from the building would be $58,900.

Payroll taxes would be paid to the City General Fund on the earnings of approximately 500 of the 550 net new employees in the project. The remainder would be exempt from the tax either because they would work for banks or insurance companies (which are not required to pay San Francisco payroll taxes), or because they would work for small, retail tenants with tax liabilities less than $500, or because they would be owners of businesses (who are also exempt). Based on an average wage of $24,600 for office workers in 1981, the payroll tax revenues would be about $184,500./10/

Net Sales tax revenues allocated to the City due to the project based on taxable sales per employee of $1,070 in 1981 would be about $7,360. The 1,600 sq. ft. of retail space, based on annual taxable sales of $120 per sq. ft., would generate about $2,400 in revenues for the City. Sales tax revenues generated by the 1/2% BART sales tax would be about $5,080. Of this total, BART would receive $3,810 directly, and the remaining $1,270 would be distributed by the Metropolitan Transportation Commission among BART, Muni and A-C Transit.

The owners of the project would pay a tax of 0.3% on their rental income. Based on total annual receipts from rents of about $6 million (assuming full occupancy), tax revenues would be around $18,000. A bill passed by the California Assembly (AB 1496) that exempts savings and loan associations from local business taxes was signed into law on September 23, 1981./11/ In the opinion of City Attorney George Agnos, this bill will not prohibit San Francisco from collecting any of the taxes it currently levies on savings and loans institutions./12/ The net increase in General Fund revenues for the City and County of San Francisco from the project would total about $528,000 in 1981 dollars.

These revenue estimates are based on the tax rates and fees in effect in mid-1981. The payroll tax and gross receipts tax rates would revert back to 1.1% and 0.22%, respectively, if the California Supreme Court (in a case now pending) repeals tax increases of the Mayor's Revenue Package which was approved by the voters in November 1980./13/

Muni

The City's General Fund subsidizes the Municipal Railway's operating budget, covering the difference between Muni's costs and the revenue Muni receives from fares and from Federal and State governments. This subsidy represents the cost of Muni to the City. The Muni average general fund deficit to the City in 1981-82 is estimated at $0.39 per ride./14/ Assuming that about 29% of the employees who occupy the existing site ride Muni to and from work, the existing General Fund subsidy to Muni required by commuting on-site employees is about $11,500 per year./15,16/ Assuming the 1981-82 subsidy would remain the same in 1984 and that 29% of the project employees would ride Muni to work, the project would create the need for a General Fund subsidy to Muni of about $29,000 at 1981 costs./17/ Reductions in State and Federal subventions as well as inflating costs may raise the deficit per ride by 1984 unless fares and/or direct tax contributions to Muni are increased.

The subsidy would probably increase by 1984, the first year of full project occupancy, as costs (fuel, labor, etc.) will probably rise faster than revenues from sources other than the General Fund (fares and subventions). In addition, the subsidy is probably understated because it only includes those workers who use Muni as their primary mode of Transportation and excludes those who use a combination of transportation modes (such as Muni and BART).

The project would help pay for the Muni deficit through its revenue contributions to the General Fund. In the 1980-81 budget, 10% of discretionary General Fund revenues were allocated to Muni. If this percentage were to remain constant, the project would generate around $58,000 in General Fund Revenues to Muni in 1984. San Francisco Board of Supervisors approved on April 27, 1981, a proposal to assess downtown commercial property owners fees to support Muni. The plan calls for levying a one-time fee of $5.00 per gross sq. ft. of new downtown office space and creating a downtown

district in which all commercial office owners would be assessed a yearly fee./18/ The fee plan has been legally challenged; but if it were to go into effect as proposed, the project could generate about $636,000 for the one-time Muni fee. The project would add incrementally to peak hour service demand. Increases in peak demand may force Muni to expand peak capacity (i.e. capital improvements) and/or result in Muni riders waiting more time in longer queues.

BART

BART fares cover about 40% of BART costs. Fore each BART passenger trip, an average of $1.00 is paid by fares, and an additional $1.50 in costs must be supported by some other revenue source. Over 86% of this additional cost is supported by the special BART 1/2% sales tax. BART's revenues from the sales tax generated by the existing site are about $5,175 per year, and BART's share of property tax revenue from the site total about $2,430. Therefore, BART's net deficit as the result of activities at the site is estimated to be about $22,720./19/

It is estimated that 15% of the net new employees in the new building would ride BART to work./15/ Therefore, the project would generate a net deficit to BART of around $36,400./20/

Cumulative Fiscal Aspects

Since 1979, five studies have been prepared that have analyzed fiscal effects of development in the City's various aspects of C-3-O Downtown Office District. The five studies were prepared by: Recht, Hausrath and Associates, Sedway/Cooke, Gruen Gruen & Associates (GG&A), Arthur Anderson and Co., and David Jones. These studies are compared and discussed in the 101 Montgomery Street Final EIR, EE 80.26, certified May 7, 1981 pp. 189-199. This document is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., San Francisco, and is hereby incorporated by reference into this EIR. These studies differ in various ways: the questions they ask, the data sources they use, the methodologies they employ, and the conclusions they draw. Table 9 on p. 70 compares the purpose, study methodology, and conclusions of the five studies, summarizing the information contained in the 101 Montgomery Street Final EIR.

TABLE 9: SUMMARY OF RECENT STUDIES ON FISCAL IMPACT OF DOWNTOWN DEVELOPMENT

STUDY, AUTHOR, DATE	PURPOSE OF STUDY	DATA SOURCES	STUDY METHODOLOGY	CONCLUSIONS
"Fiscal Concerns" in Downtown San Francisco Conservation and Development Planning Program, Phase 1 Study, Sedway/Cooke, et al., October 1979, pp. 56-59.	To qualitatively assess the likely fiscal impact of new development in the C-3 area under existing zoning ordinances and under Proposition O.	SPUR Study (1975)	SPUR cost/revenue estimates for downtown in 1973 and for projected growth 1974-1990 were assumed. Proposition 13's effect on revenues and the possible need for increased transportation infrastructure were considered. Generalized conclusions about fiscal impact of new development were drawn.	1) After Proposition 13, "costs may exceed revenues in the downtown by as much as 25%." 2) "[N]ew downtown development will not solve the city's growing fiscal problem; without new revenue sources, development will make it worse in the long run."
Downtown Highrise District Cost Revenue Study, Arthur Andersen & Co., November 1980	To quantify for 1976-77 and 1978-79 how much revenue the C-3-O area generated and how much it cost to provide city services to the area.	Data compiled from city records and through conversations with city officials.	The study counted only revenues generated within the C-3-O and costs of providing services to the C-3-O. "The principle guiding the study methodology was to calculate the amount of revenue that San Francisco would lose and the costs that could be reduced if the Downtown Highrise District were a separate city."	The C-3-O generated $56.79 million in 1976-77, or 61% more than the cost of city services to the area. In 1978-79, revenues were $53.29 million, or 48% greater than costs.
"Fiscal Considerations" Appendix C, 101 Montgomery Street DEIR, Recht Hausrath & Associates, January 1981.	To draw generalized conclusions about "how new development downtown in a post-Proposition 13 environment is likely to change the City's fiscal health from what it would be without new development."	SPUR Study, city records and conversations with city officials.	Conclusions were drawn about how revenues differ between existing and new buildings, and how costs differ between existing and new buildings. Then, under alternative assumptions about the cost/revenue balance in existing buildings and in new buildings, the fiscal impact over time of new development was compared to that of no new development.	"[A]n on-going process of new development would improve the City's fiscal situation. This beneficial impact would cease if new development were halted. This conclusion is tentative due to uncertainties about increased Muni costs."
Downtown Highrise District Cost/Revenue Study, David Jones, February 1981.	To quantify for 1978-79 the revenues generated by businesses in the C-3-O and the service costs imposed on the city and BART by the C-3-O.	Arthur Andersen study.	The Jones study differs from the Andersen study primarily as follows: 1) Costs of BART (but not revenues to BART) are included; 2) Only revenues paid by businesses and building owners are considered; 3) Muni deficit is computed differently; 4) Most costs are estimated as a percentage of revenues rather than on the basis of actual service demand in the C-3-O.	The C-3-O imposed costs of $94.4 million on San Francisco and BART, or 125% more than the revenues the area's businesses and building owners generated to San Francisco.
Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, Gruen Gruen + Associates, March 1981.	To quantitatively estimate city revenues from the C-3-O and costs of servicing the C-3-O in 1998, assuming the addition of 30 million square feet of building space in the C-3-O between 1981 and 1998.	Arthur Andersen study; data compiled from city records and through conversations with city officials.	"Only direct effects are considered." Costs are only measured for services "provided within the physical limits of the C-3-O district" and revenues are limited to "taxes on buildings within the district and the activities that take place within those buildings." Assumes the Arthur Andersen study is accurate and builds upon it.	In 1980, revenues from the 39 million square feet of building space in the C-3-O were 1.66 times as large as costs. In 1998, after completion of the 30 million square feet of new space, revenues from the entire 69 million square feet of C-3-O building space would increase to 1.92 times as large as costs.

SOURCE: Recht, Hausrath and Associates

As Table 9 shows, the five studies address two separate questions. The Arthur Anderson and David Jones studies examine the fiscal impact of the existing Downtown. Though they use the same data base, their conclusions differ because they use different methodologies.

The other three studies address the question of what the fiscal impact of new development would be. The conclusions differ because both different data bases and methodologies were used.

In summary, these studies demonstrate that, due to Proposition 13, new development replacing existing development results in an initial net fiscal benefit to the City; however, the net impact may be negative in the long run. Costs to the City will increase at approximately the rate of inflation while property tax revenues will increase only at a maximum of 2% annually. Property taxes increase at a rate greater than 2% only if there is new development or if existing property is sold.

Based on these assumptions, the project would have an initial fiscal benefit. While revenues would increase at a slower rate than costs, due to Proposition 13 limitations on property tax increases, there would reach a time where cumulative costs of providing services to new development would be higher than revenues provided, assuming no new revenue sources are found and the rate of new development declines.

NOTES - Employment, Housing and Fiscal Factors

/1/ Projections are based on the Bay Area Input-Output Model from Cooperative Extension Service, University of California, Berkeley, San Francisco Bay Area Input-Output Model 1967-1974. A multipler of 1.2 was used for FIRE and 1.6 for construction. An input-output model is a method for quantifying changes in economic activity and interrelationships among sectors of a regional economy.

/2/ The only known multiplier available (see Note /1/, above) is for the regional economy. No multiplier specifically for San Francisco is presently available.

/3/ ABAG and California Employment Development Department (EDD) data indicate that about 60% of the growth in San Francisco employment between 1972 and 1978 was employment in offices. ABAG projects that employment in San Francisco will increase 41,400 between 1980 and 1985, or an average of 8,300 per year.

Sixty percent of that, or 5,000 jobs per year, are expected to be in offices. Assuming 250 gross sq. ft. of office space per employee, office employment growth would require an additional 1.25 million sq. ft. of office space each year. (Association of Bay Area Governments and Bay Area Council, San Francisco Bay Area Economic Profile, December 1979, pp. 40, 43; California Employment Development Department, Wage and Salary Employment, By Industry, San Francisco City and County, 1972 - 1978).

/4/ San Francisco Examiner, "Effects of S.F. Office Space Squeeze," January 18, 1981, report on a real estate conference sponsored by Coldwell Banker.

/5/ ABAG, April 1981, Bay Area Office Growth, Working Papers on the Region's Economy, Number One.

/6/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, letter communication, February 27, 1979.

/7/ U.S. Department of Labor Statistics, March 1981, "Area Wage Survey for the San Francisco-Oakland, California Metropolitan Area."

/8/ Lynn S. Flach, Trammel Crow Company, written communication, November 6, 1981.

/9/ San Francisco Board of Realtors, October 5, 1981, "Multiple Sales Service". Annual data includes all homes sold from February 11, 1981 to October 1, 1981.

/10/ Downtown office workers earn about $24,600 annually in 1981, based on average annual earnings of $16,300 for downtown office workers in 1974, in San Francisco Planning and Urban Renewal Association (SPUR), June 1975, Impact of Intensive High Rise Development in San Francisco, Detailed Findings. Data are inflated by about 51%, the national average percentage increase in weekly earnings of finance, insurance and real estate employees betwen 1974 and the end of 1980 (U.S. Bureau of Labor Statistics, Monthly Labor Review, January 1981).

/11/ Brad Artson, Legislative Assistant, Assemblyperson Willie Brown's office, telephone communication, November 11, 1981.

/12/ George Angos, City Attorney of San Francisco memorandum to Thadeus Brown, Tax Collector, June 30, 1981.

/13/ Robert Fletcher, City of San Francisco Tax Collector, Legal Division, telephone communication, November 13, 1981.

/14/ Bruce Bernard, Muni Chief Accountant, oral communication, October 28, 1981. Based on 1981-82 Muni net operating cost of $142,139,000, and net revenues of $87,833,000. Assuming the 1979 revenue passenger number of 139 million would be applicable in 1981, the average General Fund deficit per ride would be $0.39. However, there has not been any update of the ridership number since 1979; therefore, the deficit per ride of $0.39 is estimated.

/15/ Office of Environmental Review (OER), "Guidelines for Environmental Evaluation - Transportation Impacts", October 1980.

/16/ Assuming 260 work days per year, two riders per day and absenteeism of 10% (holidays, vacations, sick days), each worker will ride an estimated 468 times per year. Therefore, the cost is: 216 workers x 29% ride Muni x 468 rides per year x $0.39 deficit per ride = $11,433.

/17/ 550 net new employees workers x 29% ride Muni x 468 rides per year x $0.39 deficit per ride = $29,112.

/18/ San Francisco Ordinance No. 224-81, approved by the Board of Supervisors on April 20, 1981.

/19/ 216 workers x 20% ride BART x 468 rides per year x $1.50 net deficit per ride = $30,326; $30,326 - $5,175 sales tax - $2,430 property tax revenues = $22,721.

/20/ The projected project deficit would be: 550 net new employees x 15% ride BART x 468 rides x $1.50 deficit = $57,915; $57,915 - $3,810 sales tax revenue - $17,676 property tax revenues = $36,429.

E. DOWNTOWN FIRE PROTECTION SERVICES/1/

San Francisco is experiencing accelerated development in the downtown area. Proposed and approved cumulative development, consisting mostly of highrise commercial office structures, would add about 8.9 million sq.ft. of gross floor area to the downtown area (including the proposed project). It can be anticipated that the number of fire incidents would increase with the number of people occupying the district.

Since the new highrise buildings must comply with the Life Safety provisions of the San Francisco Building Code, most fires in these buildings can be expected to yield to minimum response by the Fire Department. Since all of these buildings will be of Type 1 construction/2/, the chance of fire that spreads from building to building is relatively small. For example, when the old and highly combustible Produce Market was replaced by the highrise buildings of the Golden Gateway Redevelopment Project, the external fire protection requirements of the Fire Department decreased.

On the average, replacing older, more vulnerable, low occupancy structures with higher quality, greater occupancy high-rise buildings probably has no measurable effect on the need for fire protection.

NOTES - Downtown Fire Protection Services

/1/ Information contained in this section is from Bendix Environmental Research, Inc., Environmental Consultants and Fire Protection Engineers, confirmed by Emmet D. Condon, Deputy Chief, San Francisco Fire Department, September 24, 1981.

/2/ Type 1 buildings have structural elements made of reinforced concrete, reinforced grouted masonry, reinforced hollow concrete masonry or steel; and the exterior walls, roofs, floors and some inner walls of "fire-resistive incombustible construction." San Francisco Building Code Section 1801.

F. TRANSPORTATION, CIRCULATION AND PARKING/1/

DEMOLITION, EXCAVATION, AND CONSTRUCTION

During the construction period, transportation impacts would result from trucking movements to and from the site during demolition, excavation, and construction activity. Demolition activity would require about 12 weeks and would generate an average of one truck movement per hour in or out of the project site between 9:00 a.m. and 4:00 p.m./2/ Excavation is expected to require about eight weeks. An average of about 1.2 truck movements per hour in or out of the project site between 9:00 a.m. and 4:00 p.m. would be generated. Post-excavation construction activity would require truck movements to deliver construction materials. The construction period would require 20 months and would generate an average of about 6.7 truck movements per hour on the maximum day.

The transportation impact of the construction truck traffic would be a lessening of the capacities of the access streets and haul routes due to the slower movements and larger turning radii of the trucks. Trucks are expected to follow haul routes approved by the Department of Public Works to Peninsula disposal sites. Any truck traffic from 7:00 a.m. to 9:00 a.m. or from 4:00 p.m. to 6:00 p.m. would conflict with peak-hour traffic, particularly at

freeway access points. Site access would be via Post St. Materials storage would be provided on site. Post St. would have one lane partially closed for 20 months during the construction period. Crocker Tower and the Lick Place Galleria are under construction across from the project site on Post St. Completion of the Crocker Tower and Lick Place Galleria is estimated for about mid-1982 which would be prior to the scheduled start of construction for the proposed project; therefore, cumulative construction traffic impacts of the Crocker project and the proposed new building are not anticipated.

TRAVEL DEMAND ANALYSIS

Estimates of the amount of travel associated with the proposed project have been developed using methods consistent with guidelines prescribed by the San Francisco Department of of City Planning. The proposed project has been analyzed as an attractor/generator of work- and nonwork-related travel. The amount of travel from the project has been estimated on the basis of the number of sq. ft. of office space that would not be occupied by San Francisco Federal's existing 170 San Francisco Federal employees currently working at the site as those employees would relocate back into the new building. The travel from the existing 170 employees has been described in the transportation setting. Distribution of the travel to the regional area has been made based on projections from the San Francisco Department of City Planning Guidelines (See Appendix E, Table E-6, p. 197)./3/ Distribution of the travel to available modes has been made based upon a composite modal split analysis compiled from modal split data specified by the Department of City Planning (see Appendix E, Table E-6, p. 197)./3/

Travel from the project has been assumed to occur at the rate 17.5 total (work + nonwork) person trip ends per 1,000 net sq. ft. of office space. The travel has been assumed to split between 57% work and 43% non-work./4/ The peak hour of project generated trips was assumed to occur during the weekday evening peak hour during the peak period of 4:00-6:00 p.m. During the peak hour, 20% of the daily (24-hour) travel was assumed to occur./4/

The project would generate approximately 2,640 person trip ends per day. The p.m. peak hour travel would be approximately 530 person trip ends. The p.m. peak travel distribution is shown in Table 10.

The walk column in Table 10 shows only primary walk trips. Although 23 parking spaces would be provided on-site most persons going to the site by automobile and transit would be required to walk to the site.

TABLE 10: ESTIMATED P.M. PEAK-HOUR WEEKDAY TRAVEL* DEMAND GENERATED BY THE PROJECT**

Origin/Destination	Percent	Total	Auto	Transit	Walk***
North Bay	11	60	40	20	-
East Bay	24	125	60	65	-
Peninsula	16	85	45	40	-
San Francisco	49	260	95	155	10
TOTAL	100	530	240	280	10

* Work and nonwork person trip ends
** Totals do not include the 170 San Francisco Federal employees now working at the site who would continue to work there after project completion.
*** Persons who walk to the site without using any other form of transportation.

SOURCE: San Francisco Department of City Planning; and TJKM

TRAFFIC IMPACTS/5/

The streets nearest the project which serve as feeders to or from freeway ramps -- Mission, Beale, and Fourth Sts. -- are points of maximum automobile traffic congestion in the Downtown Financial District. They are assumed to represent the "worst case" points of greatest traffic impacts. Impacts on other streets would be less as traffic on them would be more dispersed.

As downtown San Francisco is currently experiencing an increase in office building floor area, the Department of City Planning has requested that an analysis of the cumulative traffic impact of 26 buildings in the vicinity of the proposed project (see Appendix E, Table E-7, p. 198) which are proposed to be occupied after 1980, or which are now under environmental review, be included in this report.

An estimate of 1984 traffic volumes exclusive of the project volumes was made by analyzing the traffic increases from the 26 buildings in the project vicinity as well as traffic from other developments. Table 11 on p. 78 shows the 1984 projected base volumes on the freeway feeder streets and on streets near the proposed project, the increases in traffic volumes estimated to be caused by the proposed project, and the percent of the peak-hour increase over the 1984 base level which would be caused by the project. The peak hour percentage increase caused by the proposed project above the 1984 traffic is estimated to be not more than 2% on any of the freeway approach streets. The total addition to the Oakland Bay Bridge traffic caused by the project would be about 40 vehicles in the peak p.m. hour. The Bay Bridge currently carries approximately 17,000 vehicles in the p.m. peak hour./6/ The project traffic represents a 0.02% increase in the p.m. peak hour traffic on the Bay Bridge. As the transportation analysis can be considered accurate to $\pm$ 10%, this would not be a statistically significant change.

The project would have approximately 23 off-street parking spaces. Assuming short-term demand for parking for a worst case analysis, these spaces are projected to generate up to 300 vehicle trip ends to or from the site each day. The effect of the project garage-generated traffic on the level of operation of adjacent intersections during the peak-hour in terms of volume-to-capacity ratios is shown in Table 12, p. 79. The project impact at the three intersections closest to the project site would be a result of traffic using the 23 parking spaces proposed for the project and by service vehicle traffic. The garage has been analyzed assuming only short-term use of the 23 spaces with a worst-case condition of all 23 spaces emptying onto the streets during the p.m. peak hour.

TABLE 11: PROJECTED VEHICLE VOLUMES ON STREETS NEAR THE PROJECT SITE IN 1984

Street	Section	1984 Base + Cumulative Development Max 8-Hour	1984 Base + Cumulative Development Peak Hour*	1984 Base + Cumulative Development + Project Max 8-Hour	1984 Base + Cumulative Development + Project Peak Hour*	% Inc**
North of Market Street						
Kearny	Market - Post	8,310	1,340	8,395	1,365	2
Post	Kearny - Montgomery	3,190	510	3,275	535	5
South of Market Street						
Third	Folsom - Howard	14,450	1,940	14,560	1,980	2
Fourth	Folsom - Bryant	16,305	3,165	16,415	3,205	1
Beale	Market - Mission	8,205	2,445	8,255	2,465	1

* Peak hour is the single peak hour during the peak period between 4:00 and 6:00 p.m.
** Percent increase over the 1984 base peak-hour traffic volume.

SOURCE: TJKM

Also shown in Table 11 is the impact of the project-related traffic at intersections on the freeway feeder streets. The 1984 base values reflect traffic increases from non-project development (Appendix E, Table E-7, p. 198). The 1984 base conditions would be Level of Service F at the intersection of Mission and Beale Sts., meaning that that intersection would be jammed without the project.

The impact of the project would be an imperceptible lessening of the level of service of traffic operation on the street system. As shown in Table 12, the level of operation would not be decreased a full vehicular Level of Service below the 1984 base conditions by the project traffic. An effect of increased congestion on the above streets would be a redistribution of travel patterns to less traveled routes.

TABLE 12: PROJECTED PEAK-HOUR INTERSECTION VOLUME-TO-CAPACITY (V/C) RATIO NEAR THE PROJECT SITE IN 1984

Intersection	1984 Base + Cumulative Development V/C	LOS*	1984 Base + Cumulative Development + Project V/C	LOS*
Kearny and Post	0.55	A	0.56	A
Market and Third/Kearny	0.64	B	0.65	B
Market and Montgomery/Post	0.82	C/D	0.83	C/D
Fourth and Harrison	0.85	C/D	0.85	C/D
Mission and Beale	1.06	F	1.06	F

* See Appendix E, Table E-1, p. 192, for definition of Levels of Service (LOS) and lane capacities at Level of Service.

SOURCE: TJKM

PARKING IMPACTS

The daily parking demand which would be generated by the project is estimated to be 270 parking spaces. The average short-term (non-work) parking demand was calculated to be 30 spaces per hour for the project. The project would provide 23 on-site parking spaces creating an approximately 250 space on-site deficit for the project. If all of the 23 spaces on-site were short-term only, the short-term demand for the project would exceed the supply by 7 spaces. The 23 spaces are currently proposed as long-term. One space would be provided for bicycle parking, a required by Section 155 of the existing City Planning Code.

Cumulative Parking Impacts

The parking demand from each of the 26 buildings analyzed as part of the future development was calculated using the above methodology and summed. Long-term demand from the 26 projects would be 12,410 spaces per day and average short-term demand would be 1,950 spaces per hour (assuming a 9-hour

day, 8:00 a.m. to 5:00 p.m.). The project demand (240 long-term spaces and 30 short-term spaces) would represent a 2.0% increase over the long-term demand from the 26 buildings and a 1.5% increase over the short-term demand.

Current City policy, as stated in the Revisions to the Transportation Element of the Master Plan Regarding Parking is to "encourage short-term use of existing parking facilities within and adjacent to the downtown core by converting all day commuter parking to short-term parking in areas of high demand or to car/van pool parking where short-term parking demands are low."/7/ Under this policy, there is a potential for approximately 15,000 off-street spaces within 2,000 ft. of the project site to be converted to short-term only parking. As the off-street spaces surveyed for the existing data are now used for both short-and long-term parking, implementation of the Master Plan Parking Policy would have the potential for removing any basis of comparison of the existing supply/demand ratio with future parking demands. The potential would exist to displace a large number of long-term parkers currently using parking facilities in the downtown core.

The long-term demand from the 26 buildings and the proposed project would be added to long-term parkers displaced by implementation of the Master Plan Parking Policy. The long-term demand could cause several changes in driver behavior. Some drivers could park at greater distances, west beyond Van Ness Ave., south beyond Mission St., east beyond Battery and First Sts., or north beyond California St., then either walk or use Muni to reach the downtown core. In the years following 1984, as further office expansion occurs, particularly in the Yerba Buena Center Redevelopment Area, this option would be reduced, because of expanded parking demand, unless a large expansion of parking supply were to occur in the South-of-Market area.

Imbalances in long-term parking demand and potential supply could encourage the use of car pools and van pools, or the creation of satellite or "intercept" parking facilities in outlying areas of the downtown Financial District, with shuttle or expanded Muni service to the downtown area, or increased use of transit directly from home (San Francisco) or from suburban centers (East Bay, North Bay, Peninsula). Peninsula residents, for example, could find Southern Pacific commuter trains more attractive if they could get

no closer to downtown with their cars than the train terminal at Fourth and Townsend Sts. All transit options would add to ridership of the regional transit systems, particularly Muni.

TRUCK DELIVERY AND LOADING

The project would have one loading bay in the basement of the project. Access to the proposed basement parking and service areas would be provided to and from Post St. via a ramp. The bay would be sufficient to handle standard single unit (SU) trucks and smaller vehicles. The proposed off-street freight loading space would meet the minimum length and vertical clearance requirements (CPC Section 154c) of 25 ft. and 12 ft., respectively, accommodating trucks, service vehicle and vans with a maximum length of 25 ft. Larger vehicles would not be able to negotiate the ramp into the loading area.

Table 13, p.82 shows an analysis of total service vehicle trips and average hourly service vehicle requirements based upon data published in Center City Circulation Program: Pedestrian Circulation and Goods Movement by the San Francisco Department of City Planning./8/ The building would generate approximately 43 service vehicle stops per day (at 2 trip ends per stop this is equivalent to 86 vehicle trip ends per day). Average hourly loading space requirements are given in terms of spaces per hour per 10,000 gross sq. ft. of building space. Demand for the project would be 2.2 spaces per hour. Although the single loading bay proposed for the basement level would meet existing requirements of the City Planning Code for off-street loading, the project would not be able to meet the average hourly demand for loading space off-street on site as determined by the City Center Circulation Program. This additional demand could be met by unloading from existing on-street loading spaces on Post St. The on-street spaces are currently being used by service vehicles (and in some instances illegally parked private automobiles). These vehicles, if not serving the buildings now on site, would have to compete with the overflow from the project for street space potentially causing double parking in the area.

TABLE 13: ESTIMATED SERVICE VEHICLE TRAVEL* FOR THE PROJECT

Use	Square Feet of GFS **	Daily Stops/ 10,000 sq.f.t of GFS	Daily Stops	Spaces/ 10,000 sq.ft. of GFS	Spaces/ Hour
Office	186,150	2.1	39	0.1	1.9
Retail/ Main Savings Branch	12,950	3.0	4	0.2	0.3
Total	199,100		43		2.2

* Service vehicle travel has been included in totals shown in Table 10, p. 76.
** GFS refers to gross floor space proposed.

SOURCE: TJKM

Access to the freight elevators from the loading docks would be provided by a series of doors behind a wall parallel to the loading dock. No direct connection from the loading dock to the freight elevators is proposed. Access to the street-level uses would be from the freight elevators and the building lobby. Access to the on-site private vehicle parking areas of the project is proposed to be via Post St. The garage ramp would provide sufficient maneuvering space only for passenger vehicles and for delivery vans/panel trucks with a maximum length of 25 ft. to access the garage loading areas. Maneuvering room in the garage aisles would be marginally sufficient to allow private vehicles access to parking stalls. Delivery vehicles not using the loading area properly or incorrectly parked automobiles could potentially block access to the ramp and prevent vehicles from entering or leaving the parking stalls opposite the elevator lobby. The curb cut for the proposed loading ramp would increase the potential for pedestrian-vehicle conflicts.

Pedestrian level of service on the portion of the Post St. sidewalk that contains the curb cut would be decreased if service vehicles blocked any or all of the sidewalk during heavy pedestrian demand periods. The City is planning to modify Post St. by removing the existing a.m. diamond lane and

installing a bus bulb on the sidewalk east of the project site to facilitate bus passenger loading operations./9/ Vehicles using the projects driveway could conflict with transit vehicles using the new stop.

TRANSIT IMPACTS

An analysis was made of the cumulative transit impacts attributable to development in Downtown San Francisco. For all systems except the Muni, the analysis was conducted on a system level which considered only the lines or blocks of lines that serve the project area. For the Muni, a line-by-line analysis was conducted according to Department of City Planning guidelines./10/

Increased transit ridership from 26 proposed downtown developments was included in the 1984 base values (see Appendix E, Table E-7 p. 198). In addition, growth from other developments not specifically analyzed was considered through the use of a growth factor. The ridership from the projects was added to the estimated 1984 base ridership, and an analysis of the demand-to-capacity ratios, or load factors, attributable to the project was determined.

The Muni analysis is shown in Table 14, p.84. Project load factors range from 0.00 to 0.01 on the lines where base loads factors exceed 1.00. The project does not cause any of the lines with loadings less than 1.00 to exceed 1.00. This estimate assumes the implementation of the Muni 5-year Plan on lines serving the project area.

Table 15, p.85 shows the projected ridership and demand-to-capacity ratios for 1984 conditions on all agencies except Muni. Project ridership during the p.m. peak hour would not increase the transit loading by more than 0.3% on any of the regional transit systems that serve the project area. This would not be a statistically significant change. Analysis of the transit data indicates that most of the lines shown in Table 14, p. 84 would operate in jammed conditions. Lines with load factors exceeding 1.00 indicate demand in excess of capacity (both seated and standing). Lines with load factors less than 1.00 experience loadings nearer to 1.00 for short periods during the peak periods. (The loadings shown are the results of averaging ridership of full

TABLE 14: PROJECTED 1984 P.M. PEAK MUNI ANALYSIS

		1984 Base + Cumulative		1984 Base + Cumulative + Project			
Line	1984 Capacity	Riders	Total Load Factor	Project Riders		Total Load Factor	Project Load Factor
1	450	536	1.19	2	538	1.20	0.01
1X	7	824	1.10	3	827	1.10	0.00
2	600	771	1.29	2	773	1.29	0.00
3	525	684	1.30	2	686	1.31	0.01
4	375	316	0.84	1	317	0.85	--
5	1275	1340	1.05	4	1344	1.05	0.00
6	675	681	1.01	2	683	1.01	0.00
7	450	446	0.99	1	447	0.99	--
8	1125	849	0.79	3	897	0.80	--
9	750	720	0.96	2	722	0.96	--
11	750	916	1.22	3	919	1.23	0.01
12	525	663	1.26	2	665	1.27	0.01
14	1275	1655	1.30	5	1660	1.30	0.00
14GL	300	348	1.16	1	349	1.16	0.00
14X	675	890	1.32	3	893	1.32	0.00
15	975	1199	1.23	4	1203	1.23	0.00
16X	750	691	0.92	2	693	0.92	-
17X	375	344	0.92	1	345	0.92	-
21	825	898	1.09	3	901	1.09	0.00
25	600	632	1.05	2	634	1.06	0.01
27	300	209	0.70	1	210	0.70	-
30	1425	1417	0.99	5	1422	1.00	-
30X	975	1093	1.12	3	1096	1.12	0.00
31	525	676	1.29	2	678	1.29	0.00
31X	675	771	1.14	2	773	1.15	0.01
38	1125	1333	1.18	4	1337	1.19	0.01
38L	675	882	1.31	3	885	1.31	0.00
38AX	600	679	1.13	2	681	1.14	0.01
38BX	300	261	0.87	1	262	0.87	-
40X	525	432	0.82	1	433	0.82	-
42	300	315	1.05	1	316	1.05	0.00
45	675	824	1.22	3	827	1.23	0.01
55	1650	1940	1.18	6	1946	1.18	0.00
66	375	246	0.66	1	247	0.66	-
71	375	517	1.38	2	519	1.38	0.00
72	300	375	1.25	1	376	1.25	0.00
J	1235	1086	0.88	3	1089	0.88	-
K,L,M*	3900	4240	1.09	13	4253	1.09	0.00
N	2400	2787	1.16	9	2796	1.17	0.01

* Department of City Planning statistics include the L and M Line within the K Line statistics.

NOTE: Project load factors range from 0.00 to 0.01 on the lines where the Base load factors exceed 1.00. The project loadings do not cause any of the lines with load factors less than 1.00 to exceed 1.00.

SOURCE: TJKM

TABLE 15: PROJECTED 1984 PEAK OUTBOUND TRANSIT CHARACTERISTICS BASED ON CALCULATED GROWTH FACTORS, FOR TRANSIT SERVICE OTHER THAN MUNI

Agency	1984 Base + Cumulative Ridership	1984 Base + Cumulative % Occupancy*	1984 Base + Cumulative + Project Ridership	1984 Base + Cumulative + Project % Occupancy	1984 Base + Cumulative + Project % Increase**
BART					
Transbay	14,030	107	14,060	107	0.2
Westbay	8,160	85	8,180	85	0.3
A-C Transit	12,180	98	12,210	98	0.2
SamTrans	1,490	127	1,495	128	0.3
SPRR	5,940	54	5,960	54	0.3
Golden Gate					
Motor Coach	6,600	98	6,610	99	0.2
Ferry	1,530	74	1,540	74	0.2

* Percent of total capacity occupied.
** Percent increase in projected 1984 Base ridership due to project.

SOURCE: TJKM

vehicles with partially empty vehicles, thus equalizing the loads over the 1-hour period.) As cumulative transit demand increases, the length of time of peak loadings will increase, thus spreading peak-of-the-peak conditions over a longer time period as long as transit capacity is available. As some lines only operate during heavy demand periods (i.e. express service for 1 to 2 hours during the peaks), there may not be capacity available to allow a spreading over time without additional runs.

Four regional transit agencies are projected to operate at greater than 90% of total capacity: BART (Transbay), Golden Gate Transit, A-C Transit and SamTrans. As no planned capacity increases will be implemented by 1984 by any of the regional agencies, the loadings are based on 1981 capacities.

Future policies which are not foreseeable may result in changes by 1984. If sufficient capacity is not added in the future, excess travel on the systems can be expected to either shift to another time (out of the peak hour) if

working conditions permit and transit capacity is available or to another mode of travel.

PEDESTRIAN IMPACTS

Increases in pedestrian activity are projected to occur on the sidewalks fronting the project site as a result of the project. Increases are also expected to occur as a result of other development in the project vicinity. Table 16, p. 87 shows the pedestrian levels of operation for the 1984 conditions. The values shown in Table 15, p. 85 for the 1984 Base conditions include applicable increases from the 26 buildings analyzed as the cumulative development, as well as the travel from the existing buildings on-site.

The project pedestrian p.m. peak hour travel has been assigned to be 20% of the daily generation (see p. 75), less the people that would use the 23 parking spaces in the building (approximately 30 people). One third of the peak hour pedestrian travel from the project has been assumed to occur in the peak 15-minute period.

The primary pedestrian access to the project is proposed to be on Kearny St. The project would also have access to Post St. Addition of the project pedestrian travel would cause the Post St. p.m. peak-hour flow to cross into the next flow regime but would not cause a shift on the Kearny St. sidewalk. The placement of the public entrance alcove opposite Maiden Lane would increase the potential for illegal mid-block pedestrian crossing to the project from the Maiden Lane/Kearny St. intersection.

NOTES - Transportation, Circulation and Parking

/1/ This section is based upon a study prepared by TJKM, Transportation Consultants, entitled "Transportation Impact Study for the San Francisco Federal Savings and Loan Association Office Building", May 20, 1981. The full report is on file at the Office of Environmental Review, 45 Hyde St., Room 319, and is available for public review.

/2/ Clifton C. Brinkley, Construction Consultant, written communication, May 26, 1981.

TABLE 16: PROJECTED PEAK 15-MINUTE PEDESTRIAN VOLUMES IN 1984
(Project Side of Street)

	1984 Base						1984 Base + Project					
Sidewalk	Volume* Noon	Volume* P.M.	Rate** Noon	Rate** P.M.	Flow Regime*** Noon	Flow Regime P.M.	Volume Noon	Volume P.M.	Rate Noon	Rate P.M.	Flow Regime Noon	Flow Regime P.M.
Post St.	540	270	3.6	1.3	Impeded	Unimped.	790	520	3.6	3.5	Impeded	Impeded
Kearny St.	370	380	2.5	2.6	Impeded	Impeded	620	630	4.1	4.2	Impeded	Impeded

* Pedestrians per 15 minutes
** Pedestrians per minute per foot of effective sidewalk width.
+ See Table E-2 p. 190 for definitions and volume criteria.

SOURCE: TJKM

/3/ The regional distribution is from Attachment 1 of the Guidelines for Environmental Impact Review, Transportation Impacts, San Francisco Department of City Planning, October 1980.

/4/ Summary of travel assignments is Attachment 2 to Guidelines for Environmental Impact Review, Transportation Impacts, October 1980.

/5/ Traffic impacts were analyzed at two levels. For estimation of project-generated traffic volume increases at freeway access points, conventional techniques for estimating traffic generation were used. That is, daily traffic generation was based on numbers of on-site employees, as it was assumed that as long as parking was available within walking distance, most drivers would continue to drive to work. For estimation of project-generated traffic volume increases on streets immediately surrounding the project, the capacity of the on-site garage was the basis, as it was assumed that routes of drivers going to other garages would be sufficiently dispersed so that they would have a negligible effect on traffic volumes on the adjacent streets.

/6/ Bay Bridge traffic volumes are from 1980 Traffic Volumes on California State Highways, California State Department of Transportation, April 1981

/7/ Revisions to the Transportation Element of the Master Plan Regarding Parking, Policy 2 of Objective 1, p. 3. Resolution 7647, San Francisco Planning Commission, January 20, 1977.

/8/ Center City Circulation Program: Pedestrian Circulation and Goods Movement, Working Papers 1, 2, and 3 and Final Report, San Francisco Department of City Planning, 1980.

/9/ Glenn Erikson, Transit Preferrential Street Coordinator, Department of City Planning, November 11, 1981. A bus bulb is an extension of the sidewalk out into the parking lane to allow buses to pick up and drop off passengers without having to pull into the parking lane.

/10/ Muni analysis is per Attachment 3, Guidelines for Environmental Impact Review, Transportation Impacts, October 1981.

G. AIR QUALITY

CONSTRUCTION PERIOD

Dust emissions from construction activities would affect local air quality for approximately two years. It has been estimated that dust emissions from construction activities associated with land clearing, excavation, and erection for large scale projects in arid regions amount to 1.2 tons per acre per month./1/ Assuming a 24 month period for demolition, excavation, and erection, application of this emission factor to the 0.33 acre yields

estimated dust emissions of 0.4 tons monthly and 10.0 tons overall. The worst-case 24-hour average concentration associated with this factor would be 6,400 ug/m^3 at and adjacent to the site, which is 64 times the 24-hour State standard of 100 ug/m^3. The dust emission factor of 1.2 tons per acre per month was developed by the EPA from measurements. Soil moisture levels, vehicle movement, microclimate, and activities mix associated with this emission factor are not representative of the project area. The EPA emission factor is an estimated 5-20 times higher than the actual site emission factor. In that event, the 24-hour concentration would be 320-1,280 ug/m^3, and violations of the standard for total suspended particulates would likely occur near the site.

Dustfall on surfaces would be expected within 200 to 800 ft. of the project site under low winds; high winds may result in discomfort to individuals downwind from blowing dust. Except to persons with respiratory problems, large-size construction particulates are more of a nuisance than a hazard, and settle out of the atmosphere rapidly with increasing distance from the source. This is in contrast to gaseous pollutants and to small-size particulates from combustion.

Pouring asphalt for driveways and parking lots and using oil-based paints would generate hydrocarbon emissions. These types of emissions are controlled by Regulations 3 and 9 respectively of the BAAQMD./2/ Diesel powered construction equipment would emit (in decreasing order by weight) nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates./3/

POST CONSTRUCTION PERIOD

Air quality impacts associated with the operation of the project would result primarily from vehicular emissions. Combustion of natural gas for space and water heating would also generate small amounts of pollutants (primarily nitrogen oxides) relative to traffic. Daily emissions of pollutants resulting in 1985 from all project-related vehicular and from stationary natural gas combustion were calculated and are shown in Table 17, p.90.

TABLE 17: PROJECTED DAILY PROJECT-GENERATED EMISSIONS IN 1985 (tons/day)

	Vehicular Fuel Combustion*	Natural Gas Combustion**	Total Project Emissions	1985 Projected Regional Emissions***
Carbon Monoxide	0.277	negligible	0.277	3,367
Hydrocarbons	0.024	negligible	0.024	797
Nitrogen Oxides	0.026	negligible	0.026	692
Sulfur Oxides	0.003	negligible	0.003	435
Particulate	0.004	negligible	0.004	192

*BAAQMD, 1981, EMFAC-6C Vehicular Emission Factors.
**U.S. EPA, 1977, Compilation of Air Pollutant Emission Factors, AP-42, Third Edition, p. 1.4-2. Negligible is less than 0.001 tons/day.
***Association of Bay Area Governments (ABAG), BAAQMD, MTC, 1979, 1979 Bay Area Air Quality Plan, pp. 62-64. The region is the nine-County Bay Area Air Quality Management District.

SOURCE: Environmental Science Associates, Inc.

Roadside carbon monoxide (CO) analysis was carried out for worst-case meteorology and disperson conditions for streets carrying project generated traffic; the results are shown in Table 18, p. 91.

The largest increase due to the project, about 1% over the base case and cumulative downtown development, and the highest eight-hour concentration would occur on Third St. between Folsom and Howard. Concentrations for the eight-hour period would reach 9.2 ppm exceeding the applicable standard by 2.2%. The highest one-hour concentration is experienced on Main St. between Market and Mission, with project generated traffic negligibly affecting the CO level on this street increasing it by 0.6% over the base case and cumulative downtown development.

Although not classified with regard to attainment status, San Francisco has exceeded the federal ambient lead standard (see Appendix F, Table F-1, p. 199); the major source of this lead is gasoline fuel. Traffic generated by the project would increase exhaust emissions of lead in proportion to the increase in vehicle miles traveled. However, as use of leaded gasoline

TABLE 18: PROJECTED LOCAL ROADSIDE CARBON MONOXIDE IMPACTS*

Street	Averaging Time	1981	1984** Base Case	1984 Base + A***	1984 Base + A***+ B****
Kearny (Between Market and Post)	1-hour	16.6 ppm	13.4 ppm	13.6 ppm	13.7 ppm
	8-hour	9.0*****	7.3	7.4	7.4
Post (Between Kearny and Montgomery	1-hour	14.9	12.0	12.0	12.1
	8-hour	8.3	6.7	6.7	6.8
Third (Between Folsom and Howard)	1-hour	19.8	15.8	16.8	17.0
	8-hour	11.0*****	8.8	9.2*****	9.2*****
Fourth (Between Folsom and Bryant)	1-hour	19.8	15.7	17.4	17.5
	8-hour	10.1*****	8.1	8.4	8.4
Main (Between Market and Mission)	1-hour	18.1	14.6	17.7	17.8
	8-hour	10.0*****	8.1	8.6	8.6
Beale (Between Market and Mission)	1-hour	16.0	12.9	16.2	16.2
	8-hour	8.4	6.8	7.3	7.3

* Calculations were made for worst-case disperson meteorology according to BAAPCD (now BAAQMD), 1975 Guidelines for Air Quality Impact Analysis of Projects, Updated for EPA, EMFAC-6C motor vehicle emission rates, 1981.

** Base Case for 1984 includes 0.2% non-analyzed growth.
*** A = Cumulative Downtown Development.
**** B = Proposed Project.
***** Underlined values are those exceeding the applicable standard (35 ppm for one hour, 9 ppm for eight hours).

SOURCE: Environmental Science Associates, Inc.

decreases, regional ambient lead concentrations are expected to decrease in the future.

In summary, implementation of the project would add to local and regional accumulations of CO, hydrocarbons and nitrogen oxides (the latter two being precursors of ozone), particulates, and sulfur oxides during adverse meteorological conditions, such as inversions. The recently adopted regional Air Quality Plan found that ozone would continue to be a problem, and that substantial reductions in hydrocarbon emissions would be necessary to attain

and maintain the ozone standard in the Bay Area./4/ CO and particulates are also problems on a local scale. Because the project would inrease emissions of hydrocarbons, CO, and particulates, attainment of the standards would be impeded. The project would probably have no measurable impact on citywide or regional concentrations nor on the frequency of violations of the standards. Cumulative development, on the other hand, could increase ambient concentrations and the frequency of standard violations, if the control strategies for other emission sources that are currently envisioned in the Air Quality Plan are not implemented.

Interior air quality would be controlled by a variable-air-volume ventilation system that would provide a minimum turnover of 5 cubic feet per minute (cfm) per occupant, or about 5-6 air changes per hour. Air for ventilation would consist of a filtered mixture of outside air and recirculated air, and would maintain or surpass applicable outdoor air quality standards.

NOTES - Air Quality

/1/ U.S. Environmental Protection Agency (U.S. EPA), 1975, Compilation of Air Pollutant Emission Factors, Supplement #5, p. 11.2.4-1.

/2/ Bay Area Air Quality Management District, Regulation 8, Rule 3, Rule for Architectural Coatings, adopted March 1, 1978.

/3/ U.S. EPA, 1974, Compilation of Air Pollutant Emission Factors, Supplement #4, pp. 3.2.7-2,-3.

/4/ ABAG, BAAQMD, and the Metropolitan Transportation Commission (MTC), January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area, Environmental Management Plan.

H. ENERGY

Pacific Gas and Electric (PG&E) would provide natural gas and electricity to the proposed project through its existing distribution systems./1/ The project would eliminate the site's present connection to PG&E's district steam system, because project engineers have determined that use of steam would be economically feasible in the new building; the cost of steam would be up to

60% more than the natural gas equivalent due to changes in the rate structure and reinforcement charges./2/

During the 24-month construction period, project construction would require a projected energy consumption of 327 billion British Thermal Units (Btu) at-source./3/ This projection includes the energy required for fabrication and distribution of materials and direct energy consumption at the project site for excavation, transportation, erection and construction.

Based on data obtained from the state-approved computer energy analysis program, the proposed structure is projected to consume approximately 95,500 Btu per sq. ft. per year. This amount is less than the number shown in Table 19 of the now withdrawn Federal Building Energy Performance Standard for San Francisco office buildings of 101,000 Btu per sq. ft. per year. It is also lower than the State Standard (California Energy Commission Performance Standard for office buildings with occupancy greater than 300 persons) of 141,000 Btu per sq. ft. per year.

TABLE 19: ESTIMATED ANNUAL ENERGY USE (billion Btu)

	Existing	Projected	Net Change
Electricity	16.0	25.0	+9.0
Natural Gas	0.1	3.3	+3.2
Steam	Negligible	--	--
Total	16.1	28.3	+12.2

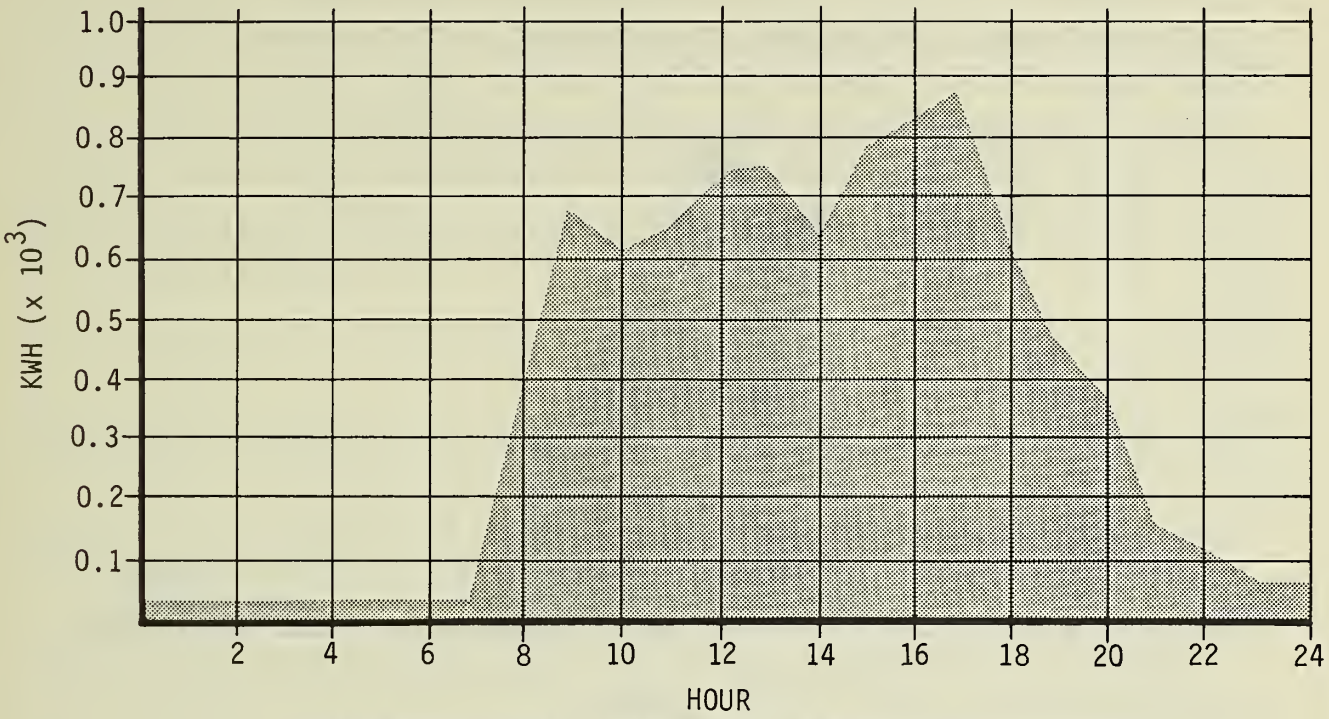
SOURCE: Skidmore, Owings and Merrill; and Environmental Science Associates, Inc.

The building would exceed minimum standards for energy efficiency as established by the California Energy Commission./4/ The ventilation system would be an all-air variable-volume circulation system which would use

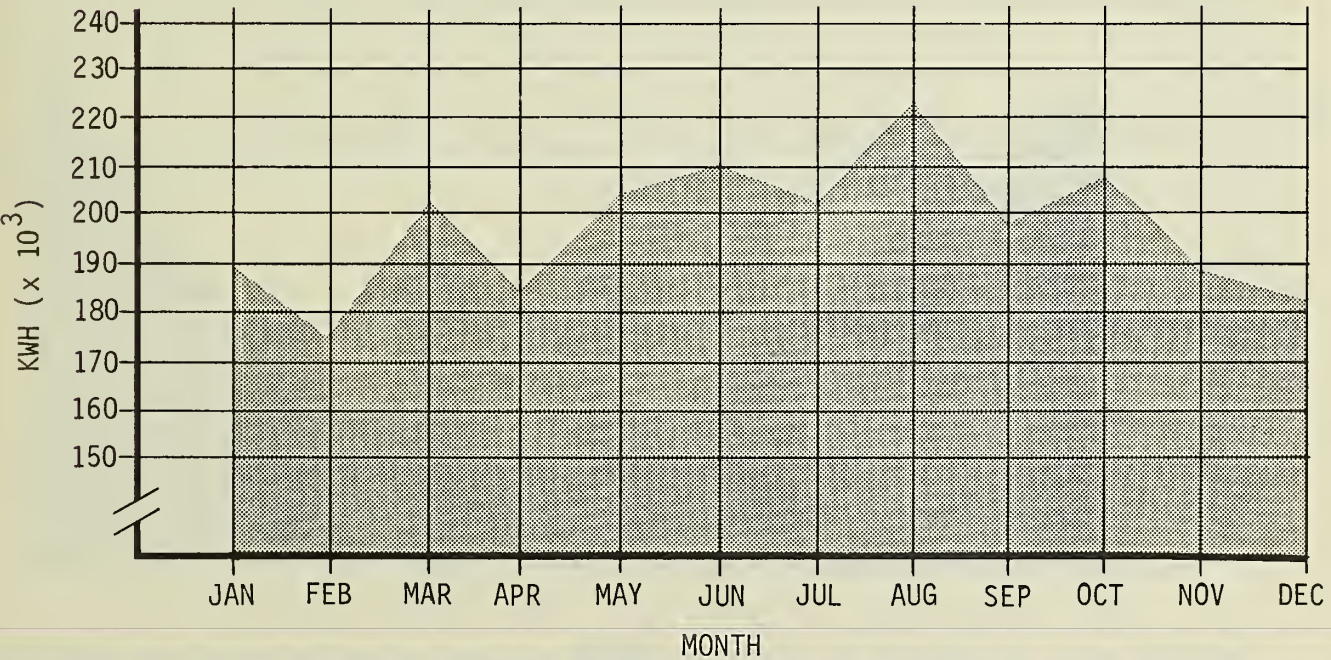
outside-air/return-air damper economizer controls to permit the use of 100% outside air for cooling when the outside air is of a desirable temperature. This would reduce the air-conditioning requirements of the structure. Heating would be supplied by a natural-gas-fired boiler with a fuel-oil backup. The air conditioning system would be a central centrifugal water chilling system. The project would also include a computer-based Building Automation System (BAS) including temperature controls and energy monitoring functions. Existing and projected Btu consumption is shown in Table 19, p.93.

The proposed building would have a connected kilowatt load of 2,500 KW and would require about 2.4 million kilowatt hours per year, a net increase of 0.8 million KWH per year. This represents an electrical demand of about 12 KWH per sq. ft. per year as compared to an estimated average for ten recently proposed highrise buildings in San Francisco of 15 KWH per sq. ft. per year (see Appendix G, Table G-1, p. 201). The total electrical demand of the building would be the same amount of electricity as is used by 720 average residential customers in San Francisco. Peak at-source electrical demand for the project would be 860 KWH or 8.9 million Btu at-source per hour. This would occur at 5:00 p.m. on afternoons in August and would coincide with the PG&E system-wide (northern California service area) peak demand period which occurs on August afternoons. Daily and annual electrical demand curves are shown in Figure 16, p. 95.

The project would require 3 million cu. ft. of natural gas per year used for space heating and domestic hot water, a net increase of 2.9 million cu. ft. This represents a natural gas usage of 15 cu. ft. of gas per sq. ft. per year as compared to an estimated average for ten recently proposed highrise buildings in San Francisco of 25 cu. ft. per sq. ft. per month (see Table G-1, p. 201). Peak demand for natural gas is about 3,800 cu. ft. per hour and would occur at 10 a.m. on weekday mornings in January. This would not coincide with the PG&E (northern California service area) system-wide peak period for natural gas which occurs in the early evening hours in January. The total natural gas demand of the project would be about the same amount of natural gas that is used annually by about 28 average residential customers in San Francisco. Daily and annual consumption patterns for natural gas are shown in Figure 17, p. 96.



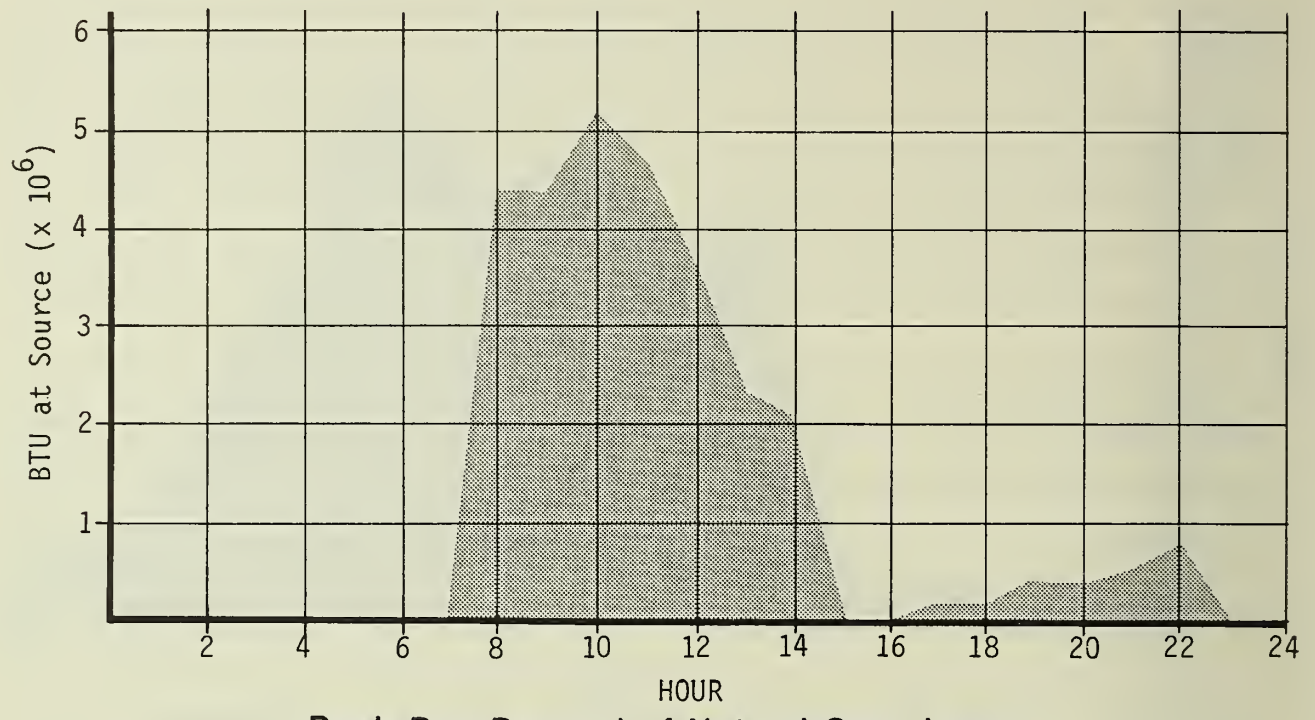
Daily Electrical Consumption, Peak Summer Month



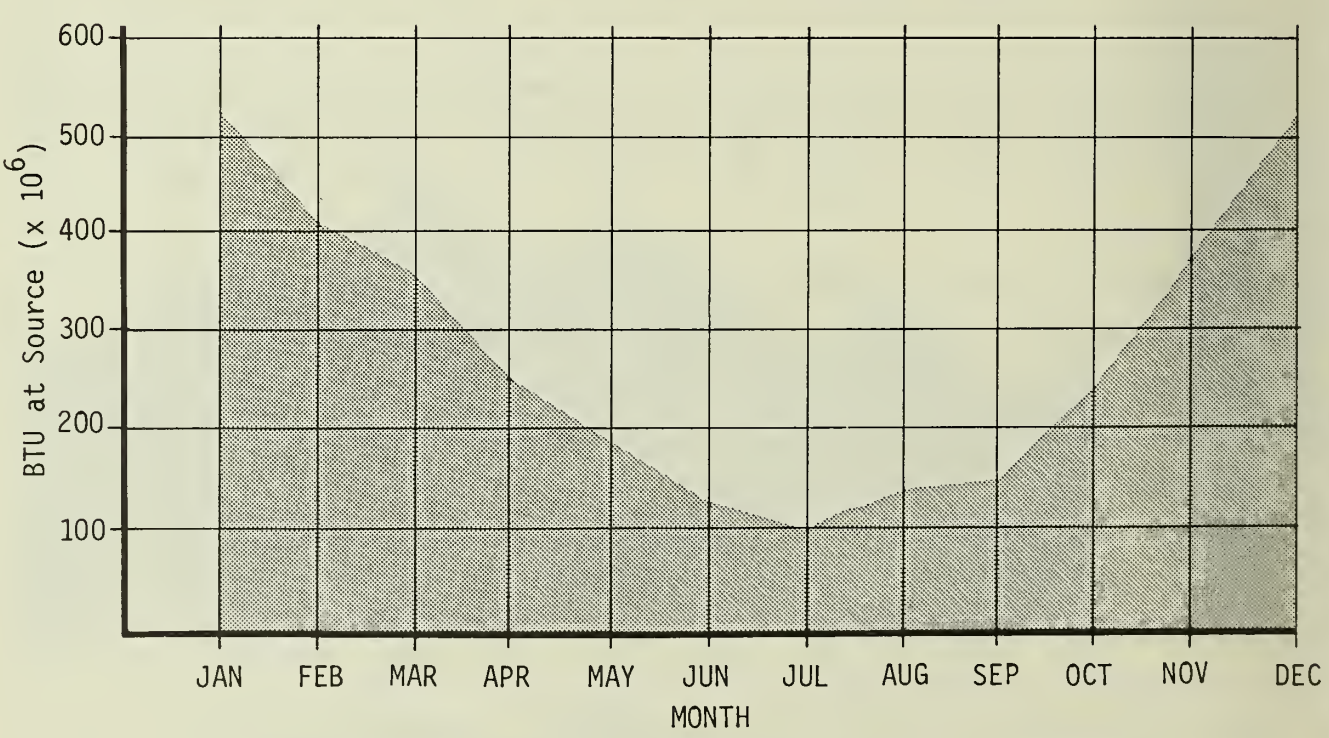
Average Monthly Electrical Consumption

SOURCE: Environmental Science Associates, Inc. and Skidmore, Owings and Merrill

FIGURE 16: Projected Electrical Load and Distribution



Peak Day Demand of Natural Gas, January



Average Monthly Consumption of Natural Gas

SOURCE: Environmental Science Associates, Inc. and Skidmore, Owings and Merrill

FIGURE 17: Projected Natural Gas Demand and Distribution

The increased estimated vehicle fuel use for traffic generated by the project would be about 55,000 gallons of gasoline per year (about 22 billion Btu at-source). This figure does not include fuel consumption of the existing 170 San Francisco Federal employees who would return to the project site. The estimated use is based upon the mix of vehicles expected in 1985; actual vehicle fuel use is expected to decline until 1995 as the vehicle fleet becomes more efficient.

NOTES - Energy

/1/ Alfred R. Williams, Industrial Power Engineer, Pacific Gas and Electric, letter communication, March 2, 1981.

/2/ Harold Ajmani, Associate Engineer, Skidmore, Owings, and Merrill, telephone communication, July 22, 1981.

/3/ Btu, British thermal unit, is a unit for measuring energy. Technically, it is the quantity of heat required to raise the temperature of one pound of water 1 degree F at sea level. The term "at-source" means that adjustments have been made in the calculation of the Btu energy equivalent to account for losses in energy which occur during generation and transmission of the various forms of energy as specified in: ERCDC, 1977, Energy Conservation Design Manual for New Nonresidential Buildings, Energy Resources Conservation and Development Commission, Sacramento, CA; and Apostolos, J.A., W.R. Shoemaker, and E.C. Shirley, 1978, Energy and Transportation, Sacramento, CA (Project 20-7, Task 8).

/4/ California Energy Commission, July 26, 1978, Regulations Establishing Energy Conservation Standards for New Residential and New Nonresidential Buildings.

I. CONSTRUCTION NOISE

Project construction would occur in three stages: demolition, site excavation, and construction. Throughout the 24-month construction period, trucks would visit the site, initially hauling away dirt and debris and then bringing in materials.

Project construction would require about one month of foundation pile driving with an impact-type (hammer) pile driver. Conventional unmuffled and unshielded pile drivers emit noise levels of 100 to 110 dBA at a distance of 100 ft. each time the driver strikes the pile. The quietest impact pile

driver measured by the City generates noise levels of 92 dBA at 100 ft., but is not always compatible with construction requirements. Assuming noise emissions of 100 dBA at 100 ft., pile driving would be audible to people on the streets within 1,000 ft. of the project site, where not shielded by intervening buildings. Open windows are sometimes required for ventilation in buildings across Kearny St., opposite the project site. During the one-month period that pile driving would occur, intermittent noise levels in these buildings would reach 80 to 85 dBA, requiring that office workers shut the windows or shout to communicate at those times, and could distract workers to a degree that would impede their work performance. In those buildings with fixed windows adjacent to the site and facing the site, pile driver noise levels would be approximately 60 to 65 dBA. These levels would temporarily interfere with normal speech at distances beyond 3 ft. and would be annoying and distracting.

The San Francisco Noise Ordinance (Section 2907c) of the San Francisco Police Code limits noise emissions from impact tools and equipment to 80 dBA at a distance of 100 ft. unless the Director of Public Works has approved intake and exhaust mufflers and shields or shrouds which accomplish maximum noise attenuation. To date, no muffled and/or shielded pile driver has been approved for use in San Francisco. Thus, use of any impact-type pile driver would be in violation of the Ordinance. However, the Department of Public Works allows pile driver operation under certain conditions, which may include specification of a relatively quiet pile driver, predrilling of pile holes, and specification of hours of operation to reduce the number of people exposed./1/

The Noise Ordinance (Section 2907b) also limits noise emissions from any powered construction equipment to 80 dBA at a distance of 100 ft. Adherence to this limit would ensure that equipment would cause noise levels at the nearest building to be no greater than present maximum noise levels due to traffic and other mechanical equipment.

NOTES - Construction Noise

/1/ Ray McDonald, Chief Building Inspector, Bureau of Building Inspection, Department of Public Works, telephone communication, July 6, 1981.

J. GROWTH INDUCEMENT

The project would add about 122,190 net leasable sq. ft. of office space, 80 net sq. ft. of savings and loan branch space, and remove about 9,440 net sq. ft. of retail/restaurant space from the Financial District. Employment at the site would increase by about 550, from about 220 to about 770. Except for San Francisco Federal Savings and Loan Association, which would occupy around 45,000 net sq. ft. in the proposed building, other tenants who would occupy the new building are not known. Occupants could include tenants that expand or relocate from other San Francisco locations, tenants that relocate from outside San Francisco, or firms new to the Bay Area. Therefore, the increase in employment at the project site would not necessarily represent employment that is new to San Francisco. However, if the building is fully leased and the availability of its space does not create permanent vacancies in other San Francisco office buildings, total employment in San Francisco would eventually increase directly by about 550 jobs due to the project. Approximately 660 additional jobs would be indirectly supported in San Francisco through the multiplier effect (see Section IV., Employment, Housing, and Fiscal Factors, p. 60).

This growth would be in response to the continuing demand for office space located in San Francisco's Financial District. This demand would exist whether or not the proposed project is built. The demand for office space continues the trend of strong growth in service sector and headquarters office activities and employment. This increase in downtown office space and employment would contribute to the continued growth of local and regional markets for goods, services and housing.

It is expected that some downtown workers would desire to live in San Francisco. However, employment growth may not correspond directly to increases in demand for housing and City services to residents, as some new jobs would be held by individuals who already live in the City but who previously either did not work or worked outside the City, or by those who prefer to live in surrounding communities or by those who would not be able to afford housing in the City (see pp. 64-66 for a detailed discussion of housing demand impacts of the project).

Any net increase in downtown employment would increase the demand for retail goods and food services in the area. By increasing office employees and reducing retail/restaurant space, the project would intensify the demand for retail goods and food services relative to their supply. Some of this demand would be met locally by the proposed Lick Place Galleria, located opposite the site on Post St.

Increases in downtown employment would also increase demand for business services, to the extent that the expanded space would not be occupied by firms providing those services. In response, demand would increase for existing space and possibly for further new development.

No major construction or capital improvements to municipal service systems would be needed to accommodate the project as no expansion thresholds would be reached. Thus, no expansion to the municipal infrastructure not already under consideration would be required to facilitate the new development and increased employment at the project site.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE POTENTIAL IMPACTS OF THE PROJECT

In the course of project planning, design, and coordination, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. A number of measures have been or would be adopted by the project sponsor or their architects and contractors. Some mitigation measures are still under consideration, and some have been rejected. Some of the measures that have been adopted as part of the proposed project are contained in the June 5, 1981 Final Initial Study for the project. Those measures are indicated below, and a letter stating the project sponsor's commitment to incoporate them in to the project is on file and available for public reivew at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

Each mitigation measure and its status are discussed briefly below. Where a measure has been rejected, the reasons for its rejection are also discussed. Where a measure is still under consideration, its implementation would be optional on the part of the project sponsor, architects, or future contractors, unless required by the City as a condition of project approval.

LAND USE AND ZONING

MEASURES PROPOSED AS PART OF THE PROJECT

- Approximately 1,600 sq. ft. of ground-level retail space would be provided in the project. Provision of small-scale, retail space of no more than 2,000 sq. ft. per establishment is encouraged in Guiding Downtown Development.

URBAN DESIGN AND VISUAL ASPECTS

MEASURES PROPOSED AS PART OF THE PROJECT

- The proposed design would include a public entrance alcove on Kearny St. opposite Maiden Lane to emphasize pedestrian scale and use in the project vicinity.

- A design feature such as a commissioned work of art would be incorporated into the Kearny St. entrance alcove, providing pedestrian interest. This measure would relate to urban design policies contained in Guiding Downtown Development, which requires that works of art be incorporated in or near new buildings. That document proposes that 1% of total construction cost be invested in art work; the cost of art to be included in the entrance alcove has not yet been determined.

- The proposed entrance alcove would be the width of Maiden Lane, with the upper portions stepped back and landscaped to provide a visual terminus of the axial view corridor extending from Union Square down Maiden Lane to Kearny St.

- The ground-floor retail use on Kearny St. would provide pedestrian amenity and interest.

- The light-colored cladding and clear glass windows of the building would be related to the traditional older buildings in the project vicinity, especially those to the west.

- A first-floor belt course would be included in the project design to visually link the lower cornice lines of the Mechanics' Institute and American Savings and Loan Building to the project.

- The building lobby would extend from Kearny St. at Maiden Lane to Post Street, providing a through-block pedestrian way; this measure would

partially fulfill the proposed open space provision requirement of 1 sq. ft. of open space per 25 sq. ft. of proposed gross building floor area contained in Guiding Downtown Development.

- The project would provide approximately 3,750 sq. ft. of sun and view terrace space on the upper levels of the building for use by building employees.

- Prior to final project design, San Francisco Federal S&L would meet with the Maiden Lane Merchants Association and building owners to coordinate the design of the proposed entrance alcove with the proposed improvement plan for Maiden Lane.

- Should future development on the southwestern portion of the project block permit, the Kearny St. entrance lobby would be designed so that it could be connected with the 660 Market St. Building, thereby providing a midblock pedestrian way extending from the Crocker Plaza at Post and Market Sts. to the Lick Place Galleria on Post St.

- Subject to approval of the City, local wind shelters for pedestrians would be provided on the sidewalks by small structures such as kiosks for newspaper or flower vendors. Street trees and other vegetation could also function as windbreaks. These additions would be appropriate along Post and Kearny Sts. east and south of the site, respectively, but would reduce pedestrian levels of service on portions of these streets.

MEASURES REJECTED

- A design incorporating floor area setbacks at the Post and Kearny Sts. intersection of the project site could be expected to have lesser wind impacts along these streets. The effectiveness of such a design change can only be measured by additional wind tunnel tests. This measure has been rejected by the project sponsor because useable office floor area would be reduced.

CULTURAL AND HISTORIC ASPECTS

MEASURES PROPOSED AS PART OF THE PROJECT

- Stained glass panels from the Maskey Building, presently located in the entrance bay of the Tie Rack store, would be retained and used in the public areas of the project.

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, should be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation, and retrieval, if appropriate. This measure was committed to by the project sponsor in the Final Initial Study.

EMPLOYMENT, HOUSING, AND FISCAL FACTORS

MEASURES UNDER CONSIDERATION

- San Francisco Federal S&L would consider providing low-interest rate financing for the rehabilitation or new construction of housing units in the City equal to the amount of new housing demand generated by the project; units to be rehabilitated or constructed would be identified by the City and the project sponsor. Such a mitigation could be carried out through programs similar to those currently conducted by San Francisco Federal S&L. Currently, San Francisco Federal has an agreement with the Chinese Community Housing Corporation to provide or arrange mortgage

credit of up to $10,000,000 through 1981 for loans to qualified borroweres for the purpose of rehabilitating and improving residential properties in certain areas of Chinatown. The program includes fixed, below-market rate conventional loans, and provisions for purchasing tax-free bonds for use in the Rehabilitation Assistance Program (RAP) conducted by the Department of Public Works. In addition, San Francisco Federal is participating in several low-interest-rate housing purchase, construction, and rehabilitation programs in the Bay Area, including the cities of Oakland and San Jose, and the unincorporated areas of East Menlo Park and East Palo Alto.

MEASURES REJECTED

According to the formula contained in the Memorandum, "Housing Requirement for Office Development in San Francisco" (Dean Macris, Director, Department of City Planning, July 1, 1981), the project would generate demand for about 125 housing units in San Francisco. The Planning Commission could require the project sponsor to satisfy this demand by development of on- or off-site housing, or by other means such as contributions to a non-profit housing development corporation. This measure was rejected by San Francisco Federal S&L because, as a savings and loan institution, it believes it could best serve the City's housing needs by providing below-market financing for purchasing, constructing or rehabilitating housing in other than the downtown area. San Francisco Federal also rejects this measure because housing constructed on the project site would be affordable only to upper-income households, and would not provide low- and moderate-income housing units, which are currently in short supply.

TRANSPORTATION, CIRCULATION AND PARKING

MEASURES PROPOSED AS PART OF THE PROJECT

- The project sponsor and construction contractor would meet with the Traffic Engineering Division of the Bureau of Engineering, Muni and with

the Office of Environmental Review to determine feasible traffic mitigation measures during construction which would be satisfactory to all parties.

- Project contractors would insure that paving, landscaping and structures in the sidewalk area would be placed (subject to City approval) so as to minimize interference with pedestrian traffic.

- Subject to approval by the Traffic Engineering Bureau, the project sponsor would install a pedestrian barrier along the Kearny St. curb fronting Maiden Lane to discourage illegal mid-block crossing by pedestrians from Maiden Lane to the entrance alcove of the project. This measure would reduce effective sidewalk widths, and may affect pedestrian flows on the western side of Kearny St., opposite the project block.

- During the construction period, construction truck movement would be limited to the hours between 9 a.m. and 4 p.m. to minimize peak-hour traffic conflicts.

- Building directories and visual aids indicating the location of the freight elevators would be placed in the loading area of the building. This measure would be consistent with proposed off-street loading requirements contained in Guiding Downtown Development (p. D-10)

- In recognition of the need for expanded transportation services to meet the peak demand generated by cumulative commercial development in the downtown area, the project sponsor would contribute funds for maintaining and augmenting transportation service, in an amount proportionate to the demand created by the project, as provided by Board of Supervisors Ordinance Number 224-81 or any subsequent equitable funding mechanism developed by the City.

- During construction, the project sponsor would minimize cumulative construction traffic impacts due to lane closures and street excavation by coordinating with construction contractors and affected utility companies for any concurrent nearby projects which are currently under construction, are planned for construction or later become known.

- The building would have "eyebolt fixtures" suitable for suspending Muni trolly wires on the Post and Kearny St. frontages, in accordance with recommendations of the Muni planning department. Trolley buses are planned to begin running on Post St. within the next two years.

- Within a year of full occupancy of the project, the project sponsor would conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for car pool and van pools. The project sponsor would make this survey available to the Department. Alternatively, at the request of the Department, the sponsor would provide a fair and equitable in-lieu contribution toward an overall transportation survey for the downtown area to be conducted by the City.

- As proposed in Guiding Downtown Development, a transportation broker would be located in the project management office of the building to encourage transit use through the sale on-site of BART and Muni passes to employees, and to encourage car pool and van pool systems in cooperation with RIDES for Bay Area Commuters by providing a central clearinghouse for car pool and van pool information.

MEASURES UNDER CONSIDERATION

- The project sponsor would consider designating a portion of the 23 proposed parking spaces as short-term parking, in response with Objective 1, Policy 4 of the Downtown Transportation Plan which discourages long-term parking in the Downtown Core.

- A surface-level, off-street loading area could be provided in the area of the site proposed for the loading ramp. This may preclude the provision of off-street, basement-level parking if the ramp area is changed to a street-level loading area.

- The project sponsor would consider establishing flex-time work hours for office employees, as savings and loan operations permit, to reduce peak-hour traffic impacts.

- As proposed in the Final Initial Study, Pacific Gas and Electric Compnay could coordianate work schedules with other utilities requiring trenching, so that street disruption would occur during weekends and off-peak hours. This measure would be implemented through the San Francisco Committee for Utility Liaison on Construction and Other Projects (CULCOP).

- The project sponsor would consider providing preferential parking for carpools, vanpools, bicycles, handicapped and short-term parkers.

- Provision of two off-street loading spaces is being considered by the project sponsor instead of one space as is currently proposed. Provision of two loading spaces would comply with the proposed loading dock requirement (0.1 space per 10,000 gross sq. ft. of bank and office use for buildings containing over 100,000 sq. ft.) now under consideration by the Department of City Planning in Guiding Downtown Development. Provision at two loading spaces would reduce the number of off-street parking spaces planned for the basement level.

- The sponsor would investigate the development of shared off-site parking facility South of Market St. to provide part or all of the 23 parking spaces proposed for the project.

- The sponsor would consider the installation of a sidewalk bulb at the Post and Kearny Sts. intersection of the project site, subject to approval by the Department of Public Works, Bureau of Engineering, Traffic Division.

- The project sponsor would consider incorporating design features into the facade treatment of the project which could accommodate informal seating for passengers waiting to be picked up.

MEASURES THAT COULD BE IMPLEMENTED BY PUBLIC AGENCIES

- The overload that would occur in Muni, BART, A-C Transit, and the SamTrans mainline (Highway 101 Route) due to cumulative development could be mitigated by provision of additional buses, by headway changes, and possibly by shifts in routes. Implementation of this mitigation measure

would depend primarily on the availability of funds and on actions initiated by the Metropolitan Transportation Commission (MTC) and the respective transit agencies and districts.

- The projected peak-hour Level of Service at the intersection of Beale and Mission Sts. would be reduced to F under cumulative development conditions, including the proposed project. The San Francisco Department of Public Works could mitigate this effect by restriping the Beale St. approach to the intersection. At the present time, Beale St. is striped for three lanes southbound. There is a bus stop on the west side and curbside parking on the east side. Sufficient width is available to restripe the approach to five lanes if towaway restrictions were placed on the curbside parking during peak hours. The resulting lane pattern could be one left-and-freeway lane, two freeway-only lanes, one through lane and one through-and-right lane. The Level of Service would change from F to D (volume to capacity ratio (v/c) change from 1.03 to 0.84) for the suggested pattern. Such a measure would be under the jurisdiction of the Division of Traffic Engineering of the Department of Public Works and would be considered as a possible mitigation measure at such time as the projected conditions develop.

AIR QUALITY

MEASURES PROPOSED AS PART OF THE PROJECT

- The general contractor would sprinkle unpaved demolition and construction areas with water at least twice a day to reduce dust generation by approximately 50%.

- The general contractor would maintain and operate construction equipment so as to minimize exhaust emissions.

- During construction, drivers of trucks in loading or unloading queues would turn off their engines when not in use to reduce vehicle emissions. This measure has already been committed to by the project sponsor in the Final Initial Study.

- The project sponsor would comply with BAAQMD Regulation 8, Rule 3 which provides for use of water-based paints rather than oil-based paints to reduce hydrocarbon emissions by up to 75%.

- The general contractor would use water-based or latex paints on all interior drywalls painted, rather than oil-based paints which emit hydrocarbons while drying. This would reduce hydrocarbons from drying paint by about 60%.

ENERGY

MEASURES PROPOSED AS PART OF THE PROJECT

- The project would exceed the minimum energy use requirements of Title 24 of the California Administrative Code.

- Wherever possible, office suites would be equipped with individualized light switches, time clock operation and fluorescent lights to conserve electric energy.

- The HVAC system would be equipped with an economizer cycle to use outside air for cooling, as feasible.

- The project sponsor and project engineer would meet with the Energy Conservation Department of the Public Utilities Commission and the energy staff of the Department of City Planning to review measures taken to reduce energy conservation.

MEASURES UNDER CONSIDERATION

- The project sponsor would consider incorporating peak-load management measures to lower demand during PG&E peak-hour demand periods.

- The project sponsor would investigate the use of solar collectors for domestic hot water, if feasible.

- The building operator would be directed to provide the Department of City Planning with one year of monthly energy consumption (natural gas and electricty) data after the building is in normal operation. If consumption exceeds the amount projected in the EIR, the owner/operator would agree to have PG&E or another certified energy audit performed, and to implement those recommended energy conservation measures which have a three year payback.

- A centralized management computer system could be used to monitor off-hour (evenings and weekends) heating and air conditioning use; tenants would be charged for off-hour heating and air-conditioning service used, which would be a conservation incentive. Implementation of this measure could discourage the use of flex-time by building employees.

- Data from the Microclimatic Study (see Appendix B) could be used to determine the optimal locations for ventilation intake and exhaust vents.

MEASURES REJECTED

- The Department of City Planning requested that the project sponsor incorporate the ability to generate electricity on-site into the planned operation of the project. This measure was rejected because project engineers have determined that on-site electrical generation would not be feasible. A project of this type and size would not have matched heating and electrical demand to make this a feasible measure.

- The use of waste heat to preheat domestic hot water was rejected by the project sponsor because the project plans already incorporate the use of waste heat into the air-conditioning system.

CONSTRUCTION NOISE

MEASURES PROPOSED AS PART OF THE PROJECT

- The project sponsor and project contractor would meet with the Bureau of

Engineering to determine necessary and feasible measures to reduce noise during the one month period that piledriving would occur and would agree to comply with any conditions required by the Department of Public Works on this issue, such as limiting the hours that piledriving could occur.

MEASURES UNDER CONSIDERATION

- The construction and geotechnical consultants for the project could study the feasibility of using an alternative foundation which would eliminate the need for piledriving during construction.

- Holes could be predrilled for the piles to reduce noise impacts; piles would be then driven the remaining distance required.

In addition to proposed mitigation measures listed above, the following measures have been committed to by the project sponsor in the Final Initial Study (see Appendix A, p.146):

UTILITIES AND PUBLIC SERVICES

MEASURES PROPOSED AS PART OF THE PROJECT

- To reduce the need for police protection services, San Francisco Federal Savings and Loan would provide internal security measures for the proposed offices such as a guard station at the employee entrance, closed circuit television cameras and internal security personnel; these measures would be in addition to the normal security measures that would be provided by San Francisco Federal S&L at the main savings branch.

- The project would incorporate all emergency response systems stipulated by the Life Safety Code, including fire alarms, an emergency communication system, emergency communication systems, an emergency power supply and an on-site emergency water supply. These measures would reduce hazards to building occupants in the event of an earthquake or fire.

- The project would incorporate low-flow faucet and toilet fixtures to reduce water consumption and wastewater volume.

- The project sponsor would provide containers to building tenants for collection and storage of recyclable solid wastes, such as glass, metal, computer cards, and newspapers.

- The building would be equipped with a trash compactor to reduce the volume of solid waste requiring storage and transport.

LAND (Topography, Soils, Geology)

- A detailed foundation and structural design study would be conducted for the building by a licensed structural engineer and a geotechnical consultant. The project sponsor would follow the recommendations of these studies during the final design and construction of the project.

- The project sponsor would post a surety bond, if required by the San Francisco Department of Public Works, before issuance of a permit to excavate. Such a bond would protect the City against damages to City-owned sidewalks, streets and utilities. The project sponsor would require the project contractor to obtain a Faithful Performance and Payment Bond and to be responsible for any damage to existing buildings which might result from excavation. This bond would protect the project sponsor and owners of adjacent properties if any damage to these properties were to result from construction activities.

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

LAND USE AND ZONING

The project would require demolition of five buildings. The project as proposed would result in a net decrease of ground-level retail space at the project site. The number of retail establishments could be reduced from four to as few as one, depending on the number of tenants that would occupy the 1,600 net sq. ft. of proposed retail space. The project would retain the ground-level, corner savings branch.

URBAN DESIGN AND VISUAL ASPECTS

Northwesterly winds would be increased up to 28% along Kearny St. south of the site and up to 22% along Post St. east of the site.

The project would add to the shadow patterns cast by the Crocker Tower, currently under construction, and the Aetna Building on the proposed One Montgomery Crocker rooftop plaza and on the glass-dome roof of the Lick Place Galleria. During winter months, the project would contribute to the complete shadowing of the rooftop plaza and the the glass-dome roof of the galleria during mid- and late-afternoon in the winter months. The project would also contribute to the shadowing of the plaza and the galleria during the spring and autumn months.

CULTURAL AND HISTORIC ASPECTS

The project would require the demolition of the Maskey Building at 46 Kearny St. and the 60 Kearny St. Building which are contained on the City Planning

Commission's list of Architecturally and/or Historically Important Buildings in the Downtown, and are rated "B" in the Heritage Survey. The Maskey Building is under consideration by the Landmarks Preservation Advisory Board for designation as a City landmark.

EMPLOYMENT, HOUSING AND FISCAL FACTORS

The project would result in a net increase in leasable office space of 122,190 sq. ft. The project would also result in a net loss of 9,440 sq. ft. of net leasable retail space. The project would accommodate an increase in on-site employment of as many as 550 employees and would require the displacement of about sixteen businesses employing about 50 persons.

TRANSPORTATION, CIRCULATION AND PARKING

Construction traffic would intermittently lessen the carrying capacity of access streets and haul routes during the 24-month construction period. Installation of underground utility connections would also cause traffic disruptions.

The single loading bay proposed for the basement level would meet off-street loading requirements of the existing City Planning Code, but would not meet the average demand for off-street loading space at the project site; this demand could be met by existing on-street loading spaces on Post St., or by providing two off-street loading spaces.

The project would provide 23 parking spaces, but would generate a projected daily parking demand of 270 parking spaces. This represents a projected daily parking deficit of approximately 250 project-related spaces.

The project would contribute to cumulative transportation impacts in the downtown area, including increased traffic volumes, decreases in levels of service and increased transit ridership and loading.

AIR QUALITY

Demolition, earthmoving, and construction activities would affect local air quality conditions, especially particulate (dust) concentrations for approximately one year.

ENERGY

Projected total energy use for the project is 95,500 Btu per sq. ft. per year. Annually the project would consume an estimated 2.4 million KWH of electricity, 3 million cubic feet of natural gas, and 55,000 gallons of gasoline.

CONSTRUCTION NOISE

During the one-month period that foundation pile driving would occur, intermittent noise levels in neighboring office buildings would reach 80 to 85 dBA; those noise levels could interfere with work operation in adjacent buildings, if not mitigated by such measures as restricting the time of pile driving to evening hours.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

ALTERNATIVE A - NO PROJECT

This alternative, as defined by the California Environmental Quality Act, would involve no change to the project site as it now exists. The five buildings which occupy the project site would remain, presumably in substantially the same conditions and uses that exist in 1981. San Francisco Federal S&L would continue to occupy approximately 39,830 net sq. ft. of floor area in four of the five buildings occupying the site, with an eventual increase in occupied space as the number of San Francisco Federal employees continue to increase at an average historical rate of 4% per year. In general, the environmental characteristics of this alternative would remain substantially as described elsewhere in the Environmental Setting section of this report, (see Section II, pp. 22-48 for a discussion of exisiting conditions). With no project, existing structures on the site would be retained in their present condition. Present levels of traffic, parking demand, transit demand, air pollution, energy consumption, on-site employment, and wind, shadow and visual effects now attributable to the buildings on the site would continue to exist.

This alternative would eliminate the effects of the proposed project upon the two architectural and historic buildings on the site, as no demolition or relocation would be required. Existing buildings on the site, constructed between 1906 and 1924, would continue to pose life safety and seismic hazards to San Francisco Federal employees and to other occupants of buildings on the project site unless renovated to current San Franicisco building code requirements. The no-project alternative would lessen other employment-related effects identified above, as approximately 550 fewer people would be employed at the project site. This alternative would eliminate the need to dislocate businesses and retail uses, employing approximately 50 people, which now occupy the structures.

SPONSOR'S REASON FOR REJECTING ALTERNATIVE

The project sponsor has rejected this alternative because the existing buildings at the project site, built between 1906 and 1924, would not provide more efficient space for San Francisco Federal's savings and loan operations, currently conducted at the site in four separate buildings. Location of business functions in four separate buildings, with separate entrances and elevator cores, hampers the efficiency of operations at San Francisco Federal S&L.

This alternative was also rejected by the project sponsor because it would not provide additional building space for anticipated employment growth; San Francisco Federal currently occupies about 88% of the net leasable office space at the project site. The no-project alternative would eventually preclude use of the project site as headquarters for San Francisco Federal, as further dispersion of its operations to other locations would be required to provide additional space. San Francisco Federal S&L indicates that retaining the existing mixture of buildings with different heights and exteriors on the project site would not provide a unified design that would identify its headquarters offices.

ALTERNATIVE B: RETAINING THE MASKEY BUILDING AND/OR THE 60 KEARNY ST. BUILDING

The Maskey Building and 60 Kearny St. Building are listed as "architectural or historically significant buildings in the Downtown," by City Planning Commission Resolution No. 8600, "meriting special concern for preservation in part or in whole." The Maskey Building, rated "B" in the Heritage Survey, is currently under consideration by the Landmarks Preservation Advisory Board for designation as a City Landmark; the landmarks designation currently scheduled to be considered by the Planning Commission on Janauary 28, 1982. This alternative would consider retaining the 60 Kearny St. Building, and all or part of the Maskey Building, and would consist of the following four variants:

Variant 1: Retaining the Maskey Building

Variant 2: Integrating and retaining the front 40% of the Maskey Building

Variant 3: Retaining both the Maskey Building and the 60 Kearny St. Building

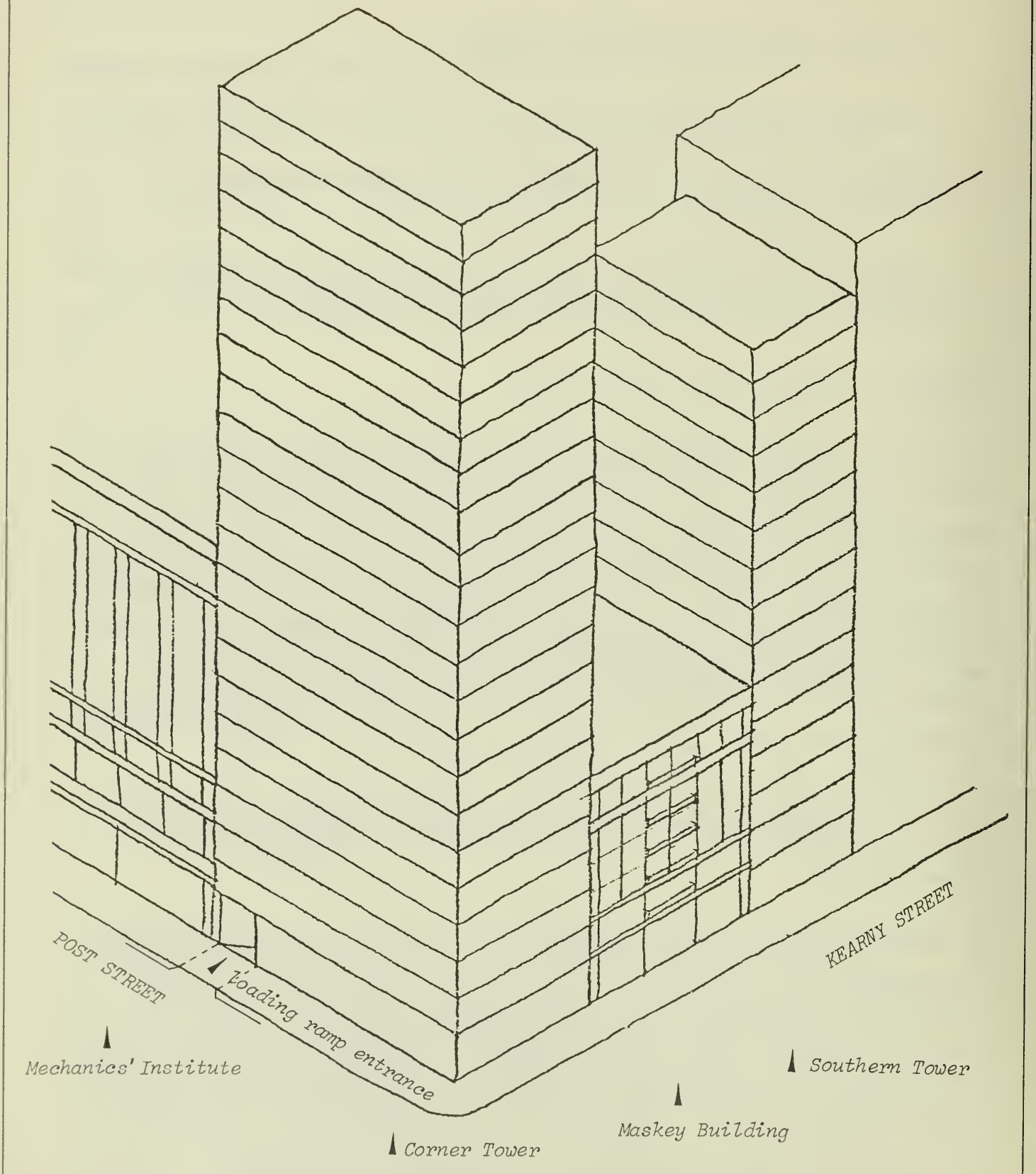
Variant 4: Incorporation of design elements of the Maskey Building into the exterior design of the proposed project

VARIANT 1: RETAINING THE MASKEY BUILDING

In this alternative, new development on the project site would occur only on Lots 7, 9, 10 and 11. Lot 8, containing the Maskey Building, would not be developed; this building would be retained and preserved. This alternative assumes that Lot 7 on the southern portion of the site, which has a site area of approximately 3,070 sq. ft., would be developed as a building separate from the Maskey Building or corner building. Floor area development rights of the parcel containing the Maskey Building would be transferred to the corner parcels, Lots 9, 10, and 11, where a single office tower would be developed (see Figure 18, p.120). Such a transfer is provided for in Section 127 of the City Planning Code. The total gross floor area on the site in this alternative would be about 199,400, with a maximum floor area ratio (FAR) of 14:1; the 199,400 sq. ft. of gross floor area would include the retained Maskey Building.

A 15-story building would be developed on Lot 7. This building would contain approximately 42,920 gross sq. ft. of floor area, providing approximately 2,850 sq. ft. of space per floor. Assuming use of 15% to 20% of the floor area for an eastern elevator core, stairwells, and mechanical equipment areas, the 15-story building would contain about 2,200 to 2,400 sq. ft. of leasable space per floor. No off-street loading would be required for this building.

On Lots 9, 10, and 11, a 23-story tower, containing approximately 125,390 gross sq. ft. of floor area, would be constructed in this alternative. It might be possible to structurally integrate the six-story



SOURCE: Skidmore, Owings and Merrill

FIGURE 18: Alternative Retaining the Maskey Building – Isometric View

Maskey Building into the lower six floors of the corner tower to increase the efficiency of floor area sizes. Assuming, however, that the corner tower would be constructed as a separate building, that building would contain approximately 5,400 gross sq. ft. per floor, providing about 4,300 to 4,600 sq. ft. of net leasable space per floor. An underground or surface-level loading bay would be provided on Post St., at a location on the site similar to that of the proposed project.

Ground-floor uses in this alternative would be similar to those of the proposed project: the 23-story corner tower on Lots 9, 10 and 11 would contain the main savings branch of San Francisco Federal S&L, and the Maskey Building and the 15-story building on Lot 7 would contain retail uses.

Development of this alternative would not require demolition of the Maskey Building. Retention of the Maskey Building would require extensive structural restoration. To reestablish the full design quality of the facade of the Maskey Building, the remodeled ground-level entrance bay would have to be restored in a manner similar to the original facade (see Figure 10, p. 29).

Land-use effects of this alternative would be the same as those of the proposed project. Urban design effects under this alternatve would differ from the project because three separate buildings, including a 23-story, 305-ft.-high, corner tower, would be developed at the site, instead of the single, 230-ft.-high, 16-story building currently proposed. The scale of the corner tower would relate visually more to the taller Crocker Tower and Aetna Building than to the older low-rise buildings to the north and west. The alternative would not provide a unified design for the project site. No 20-ft. setback would be provided from the roofline of the Mechanics Institute on the Post St. frontage of the project. A visual terminus from Maiden Lane would be provided because existing views of the rear facade of 660 Market St. and sign scaffolding of 625 Market would be replaced by a single building; however, the small floor sizes would not allow development of the upper-level landscaped, stepped back terraces to be incorporated into the design for the 15-story alternative building, as proposed in the project.

The shadow effects of the 23-story, 305-ft.-high corner tower on the Crocker rooftop plaza and on the glass-dome roof of Lick Place Galleria would be similar to those of the project, but the length of the shadows cast would be extend farther than those of the project.

On-street loading would be needed for the building on Lot 7, possibly resulting in vehicle-vehicle conflicts on Kearny St as no off-street loading would be provided. This 200-ft.-high building would have small leasable areas per floor, which would require specialized tenants that could use small floor areas.

Because this alternative would contain approximately the same total gross floor area as the proposed project, construction, noise, transportation-related and air quality effects of this alternative would be similar to the effects of the proposed project.

SPONSOR'S REASON FOR REJECTING ALTERNATIVE

An alternative that would preserve the structure of the Maskey Building would provide approximately the same gross floor area at the project site as the proposed project, but the net leasable space would be reduced. The project sponsor has rejected this alternative because it would not provide more efficient space for its savings and loan operation. The three buildings proposed in this alternative would be required to function independently (at least at upper building floors), resulting in three separate interior mechanical, structural, and circulation systems, and inefficient use of floor space. An alternative that would retain the Maskey Building would impair the marketability of the project to prospective tenants, as each of the three buildings would provide small leaseable floor areas, and inefficient floor plans. A large light well is situated in the center of the Maskey Building resulting in an inefficiently designed U-shaped configuration around the perimeters of the light well on each floor of the Maskey Building.

The project sponsor indicates that life safety, seismic reinforcing, and other current code standards would require building improvements for the Maskey Building that could not be economically justified. To retain the Maskey

Building would require that the interior of the building be entirely demolished and reconstructed to bring it up to current code requirements and to meet the space planning requirements of conventional office standards. The cost of renovating the Maskey Building, estimated at $4 to $5 million (1981 dollars), would exceed the cost of constructing a new structure of equal square footage./1/

The project sponsor further indicates that this alternative would not meet its project objectives of providing a unified design that would identify the headquarters offices of San Francisco Federal S&L.

NOTE - Alternative B: Variant 1

/1/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, written communication, November 10, 1981.

VARIANT 2: RETAINING AND INTEGRATING THE FACADE AND FRONT 40% OF THE MASKEY BUILDING

This alternative would preserve the facade and about 40% of the front portion of the Maskey Building structure. A new building would be constructed on the rear portion of the Maskey Building parcel and on the remainder of the project site. If feasible, the lower floors of the new building would be structurally integrated into the retained portion of the Maskey Building. As in the proposed project, this alternative would be developed at a maximum FAR of 14:1, and would provide a total of approximately 199,400 gross sq. ft. of floor area. This building would be one story taller and about 13 ft. higher than the project (see Figure 19, p. 124).

This alternative would require demolition of the rear 60% of the Maskey Building, but would retain the front 40% of the building, thereby preserving the architectural detail of the facade. However, to reestablish the original facade of the the Maskey Building, the remodeled ground-level entrance bay (see Figure 10, p. 29) would have to be restored in a manner similar to the original facade. Should the Maskey Building receive landmark status, demolition of the rear portion of the building, and alteration of the front

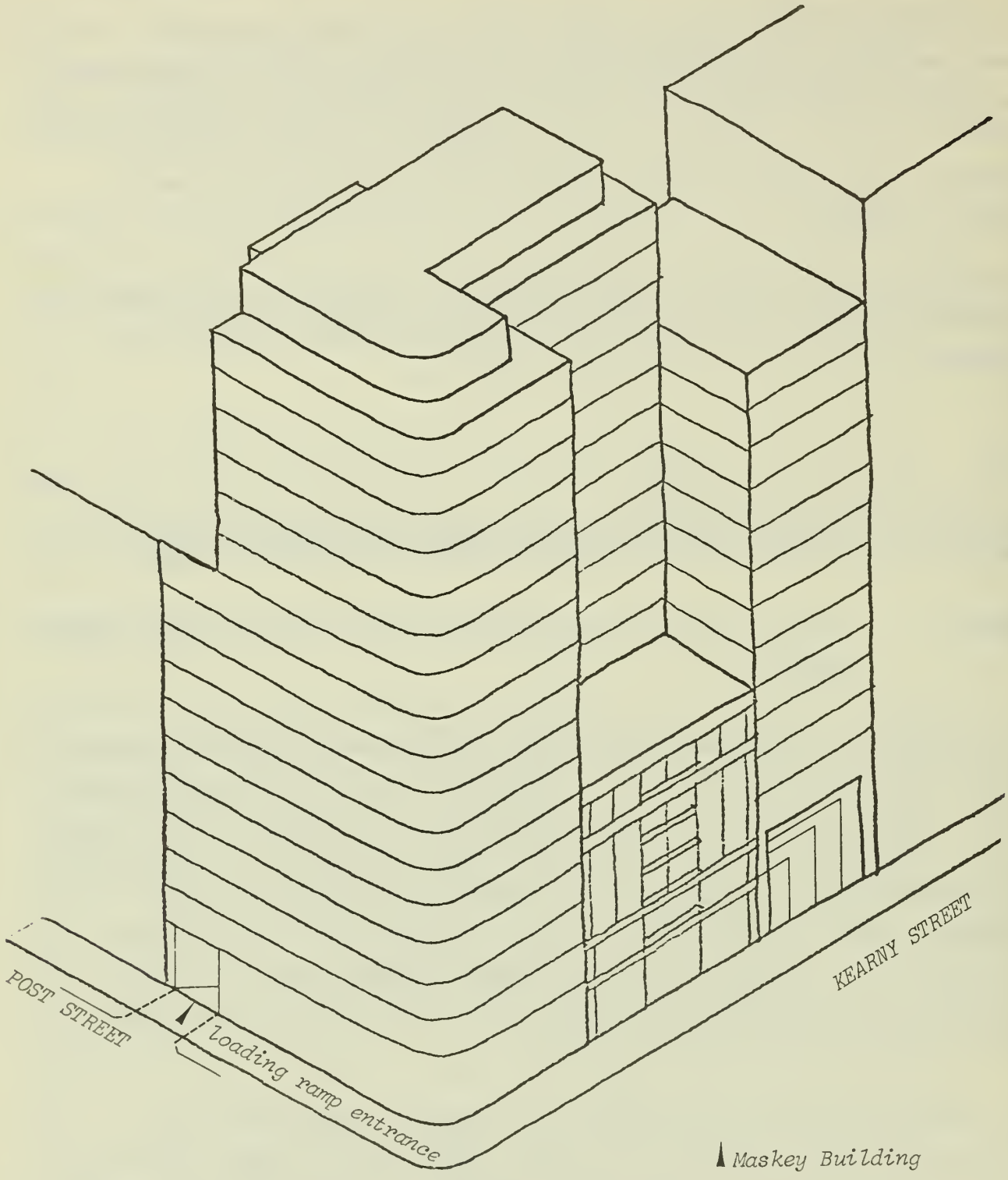


FIGURE 19: Alternative Retaining the Maskey Building Facade and Front 40% of the Structure - Isometric View

SOURCE: Skidmore, Owings and Merrill

portion of the building facade would require that a Certificate of Appropriateness be issued by the City Planning Commission before demolition or alteration could occur.

If the retained portion of the Maskey Building could be structurally integrated into the lower floors of the new building, this alternative would allow development of ground-level retail and corner savings branch space, and provision of a through-block pedestrian way. If structural integration of the Maskey Building would not be possible, then the proposed through-block pedestrian way and ground-level retail would not be provided because of the loss of useable ground-floor space.

Land use, shadow, employment, housing, and transportation-related impacts of this alternative would be similar to the effects of the proposed project.

SPONSOR'S REASON FOR REJECTING ALTERNATIVE

This alternative would not meet the project sponsor's objective of providing more efficient office space for its savings and loan operations. The loss of useable space on the upper floors of the new building to accommodate retaining the front portion of the Maskey Building would result in inefficently designed floor areas on the upper ten floors. The possible structural integration of the Maskey Building into the lower floors of the new building would also reduce the efficiency of the lower floor areas; the heights of the floors of the Maskey Building are lower than modern office floor designs. Given the loss of floor area efficiency in this alternative, construction of this alternative could not be justified economically by the project sponsor; retaining the front 40% of the Maskey Building would require structural improvements to that portion of the building estimated at a cost of up to $1 million (1981 dollars), including structural reinforcement of the facade, and complete reconstruction of the retained interior of the Maskey Building to meet current building code requirements./1/ The project sponsor believes that this alternative would not provide a unified design theme for its headquarters offices, as the design elements of the new construction would not be compatible with the partially recessed facade on the Kearny St. frontage of the project.

NOTE - Alternative B: Variant 2

/1/ Ernest J. Piccone, Corporate Services Manager, San Francisco Federal Savings and Loan Association, written communication, November 10, 1981.

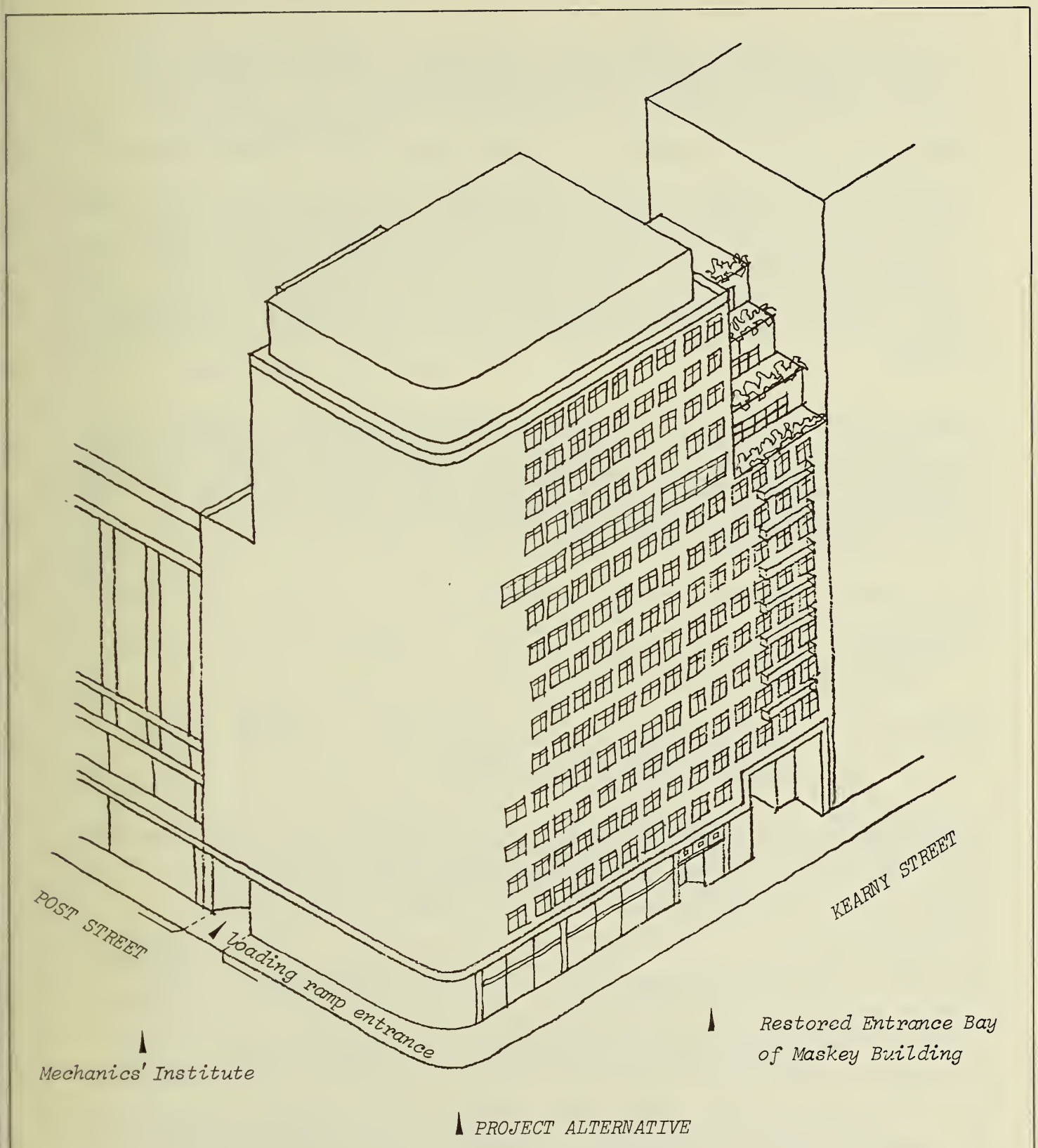
VARIANT 3: RETAINING THE MASKEY BUILDING AND THE 60 KEARNY ST. BUILDING

An alternative preserving the structures of both the Maskey Building and the 60 Kearny St. Building would, in effect, constitute the no-project alternative because development could only occur on three non-contiguous parcels, Lots 7, 9 and 11, each containing a site area of about 3,000 sq. ft. or less. Construction of three separate buildings on lots of this size would not provide efficient, leasable space. This alternative would not be acceptable to the project sponsor because a project could not be designed on the 14,250-sq.-ft. site that would provide sufficient useable floor area relative to the investment for new construction on the site. Effects of this alternative would be the same as those described for the No-Project Alternative and in Section III. Environmental Setting, pp. 22-48, of this report.

VARIANT 4: INCORPORATION OF DESIGN ELEMENTS OF THE MASKEY BUILDING INTO THE EXTERIOR DESIGN OF THE PROJECT

This alternative would entail a design very similar to that of the proposed project. The 16-story building would contain approximately 199,400 gross sq. ft. of floor area. The ground-level corner savings branch and retail space would be the same in this alternative as in the proposed project. Design elements included in the proposed project, such as the entrance alcove and building step backs at the 11th through 14th floors along the upper portions of the building opposite Maiden Lane, would also be incorporated into this alternative (see Figure 20, p. 127).

This alternative would require the demolition of the Maskey Building and the 60 Kearny St. Building; however, this design would incorporate several of the design features of the Maskey Building, thereby retaining in part the



SOURCE: Skidmore, Owings and Merrill

FIGURE 20: Alternative Incorporating Design Elements of the Maskey Building - Isometric View

character of the Maskey Building in the new design. Design features of the Maskey Building to be retained in this alternative include: restoring and retaining the ground-floor bay of the Maskey Building; incorporating decorative balcony railings similar to those on the existing Maskey Building on the portion of the building that would provide a terminus of the axial view down Maiden Lane from Union Square; using materials of white terra cotta or tile with clear glass similar to the materials used in the existing facade; and retaining cornice lines and the existing fenestration pattern of recessed glass, bull-nose edging of window openings, and glass divided by transoms and mullions.

Because the size and uses of this design alternative would be the same as the proposed project, impacts of an alternative incorporating the design features of the Maskey Building would generally be the same as those described in Section IV. Environmental Impacts, pp. 49-100.

This alternative is currently under consideration by the project sponsor and architects.

ALTERNATIVE C - COMBINED HOUSING AND OFFICE DEVELOPMENT, PROVIDING ON SITE HOUSING DEMANDED BY THE PROJECT

Based on the housing demand generation factor of 0.22 units for each 250 gross sq. ft. of new office space, the proposed project would generate a total demand for about 160 housing units, and a net demand for approximately 125 dwelling units (not including present 170 San Francisco Federal employees who would return to the project site). Incorporating this number of units into the proposed project would cause the building to exceed the maximum FAR of 14:1. Floor area bonuses available under the existing City Planning Code and Interim Controls would not be sufficient to allow the floor area necessary for this number of units, so the total allowable floor area for the site would be exceeded. Therefore, in order to accommodate all net project-generated housing demand on the site within Planning Code limitations, it would be

necessary to reduce the amount of office space. This, in turn, would result in fewer employees and, thus, a reduction of required housing units. This alternative would balance project-generated housing demand, allowable floor area, and the height limit.

Alternative C would consist of a structure that would occupy the same building site, but would contain housing as well as office and street-level retail uses. The amount of housing to be provided in this alternative would equal the number of units demanded by the net increase in employees at the site (not including the existing 170 San Francisco Federal employees who would return to the site after project completion).

Under the extended interim controls and corner floor area bonus, the site would be eligible for development of an additional 34,000 sq. ft. of floor area to be used for housing (City Planning Code, Section 126 10(d)). Housing, office, and street-level uses in this alternative would be distributed as shown below:

Housing: About 86,150 sq. ft. (including 34,000 gross sq. ft. permitted by the corner floor area premium), providing approximately 86 units.

Office: About 140,650 gross sq. ft. (including about 42,500 gross sq. ft. of floor area that would be occupied by the existing 170 San Francisco Federal employees, by whom it is assumed that no additional housing demand would be generated).

Savings Branch: About 5,000 sq. ft. (same as the proposed project).

Retail: About 1,600 sq. ft. (same as the proposed project).

Because of the additional floor area, this alternative would be about 18 stories, two stories taller than the proposed project, and about 260 feet high, 30 ft. higher than the proposed project.

Required parking for the residential units would be about 22 spaces (one space per four units), and would be located in the basement level of the building. Housing would be provided for approximately 125 persons. Off-street freight loading area would be provided in the basement level of the building, as in the proposed project.

Like the proposed project, Alternative C would require demolition of the five buildings which now occupy the project site.

Visual effects of the alternative would be similar to those of the proposed project, except for the addition of two stories to accommodate some of the residential units. Because of the taller building height, this alternative would cast longer shadows than the project, but would contribute to the full shading of the the Crocker rooftop plaza and glass-dome roof of the Lick Place Galleria in a manner similar to the proposed project.

The principal distinguishing characteristic of this alternative would be its provision of housing. As the housing units would presumably sell for at least $200,000, it may be assumed that the residents would consist primarily of upper- and upper-middle-income households whose principal income earner(s) would work Downtown, perhaps even in the building itself. Because of the reduction in the gross floor area; and to the extent that project residents would work in the building, Alternative C would reduce commuter traffic, transit and parking demand, and associated fuel consumption, noise and air pollution levels from those that would be attributable to the proposed project. The alternative would contribute to the City's upper-income housing stock.

A combined housing and office alternative would consume roughly 55% more energy and about 50% more potable water than the proposed office structure. This alternative would also expose its residents to the environmental conditions of the Downtown area, such as greater levels of traffic, noise, and air pollution than are common in most outlying residential areas, and reduced access to some residential services, including grocery shopping, and recreation and community programs.

The fiscal implications of this alternative are difficult to project, but would probably be similar to those of the proposed project, as revenue gains attributable to a higher assessed project value (due, in turn, to higher construction costs), might be offset by possible increased service costs attributable to the introduction of a residential use in a predominantly commercial/office business area. Possible increased service costs attributable to the residential component of this alternative include fire, police, recreation, and City administrative costs.

SPONSOR'S REASON FOR REJECTING ALTERNATIVE

This alternative was rejected by the project sponsor because of the reduced efficiency in building operations. Mixed residential and office uses would preferably have separate elevators and plumbing and energy systems. Additional mechanical space would reduce floor areas substantially because of the relatively small size of the site.

The 25 parking spaces required for the residential units would not permit development of the 23 long-term spaces of parking proposed for use by San Francisco Federal S&L.

The project sponsor also has rejected this alternative because as a lending institution, San Francisco Federal S&L believes it could better contribute to the City's housing stock, especially for low- and moderate-income persons, by continuing to provide low-interest financing for purchasing, constructing, or rehabilitating housing in the City. (See also V. Mitigation Measures, Employment, Housing and Fiscal Factors, pp. 104-105, for a description of the low-interest financing mitigation under consideration by San Francisco Federal S&L.)

ALTERNATIVE D - ALTERNATIVE CONFORMING TO GUIDING DOWNTOWN DEVELOPMENT

A structure could be developed at the project site that would comply with the development guidelines contained in the Department of City Planning's document entitled Guiding Downtown Development, May 1981. That document contains a

series of regulatory proposals for managing development in downtown San Francisco that affect the size, design, and location of major buildings. The report also proposes changes to City Planning Code regulations for the C-3 Planning Code Use districts pertaining to housing, transportation, open space, and preservation of significant older buildings. Table 20, p. 133 compares existing development controls contained in the City Planning Code to proposed changes to those requirements contained in Guiding Downtown Development.

An alternative developed on the project site which would comply with Guiding Downtown Development (GDD) would entail a 13-story building approximately 175 ft. in height. Based on a floor area ratio (FAR) of 12:1 (exclusive of allowable floor area bonuses), this building would contain a total of approximately 170,950 gross sq. ft. of floor area on the 14,450-sq.-ft. site (see Figure 21, p. 134). The project would be located in the 400-S Height District proposed in GDD, requiring that the average floor area above 65 ft. not exceed 20,000 sq. ft., and that the average floor area of floors above the midpoint of the height of the building be 2/15ths less than the average floor area of floors below the building midpoint (GDD, pp. A-4 - A-5). In this alternative, the average floor area above 65 ft. would be about 12,550 sq. ft.; floor area above the midpoint would be 12,000 sq. ft. or about 2/15ths less than the average floor area below the midpoint of 14,210 sq. ft.

No additional FAR would be allowed in this alternative because it would not contain housing or include transferring development rights from or retaining the Maskey Building or the 60 Kearny St. Building. Ground-level retail space of less than 2,000 sq. ft. per use would be included in this alternative; however, development of the site would result in a net loss of exisiting ground-level retail space, so that, while not specified in GDD, it is assumed that the ground-level retail bonus would not be applicable.

Table 20, p. 133 summarizes and compares the major development controls contained in GDD to the project, as proposed.

TABLE 20: COMPARISON OF EXISTING DEVELOPMENT CONTROLS TO PROPOSED CHANGES CONTAINED IN GUIDING DOWNTOWN DEVELOPMENT, MAY 1981

Major Development Controls Pertaining to Project Site	Present Requirements- City Planning Code and Interim Controls	Proposed Requirements- Guiding Downtown Development	Proposed Project
BASE FAR	14:1	12:1*	14:1
Height Limit	500 ft.	400 ft.	230 ft.
Average Area per Floor	Not Specified	20,000 sq. ft. above 65 ft.	13,810 sq. ft. above 65 ft.
Maximum Diagonal Dimension	200 ft. above 150 ft.	200 ft. at top portion of building	190 ft. above 150 ft. in height
Maximum Length	170 ft. above 150 ft.	Not Specified	162 ft.
Size of Upper Floors	Not specified	Average floor area of floors above midpoint of building height to be 2/15 (13%) less than average floor area of floors below midpoint	Average floor area of upper floors about 5% less than average floor area of floors below midpoint
Incorporation of Art	Not required	Art equal to 1% of total construction cost.	Art proposed for entrance alcove; cost not determined
Ground-floor retail	Not required	2,000 maximum sq. ft. per use to obtain floor area bonus	1,600 sq. ft. proposed
Recreation/Open space	Not required	1 sq. ft. for public use per 25 sq. ft. of gross floor area**	3,750 sq. ft. of roof and deck terraces for employee use
Off-street loading	1 space for buildings containing between 100,001 and 200,000 sq. ft. of floor area	0.1 spaces per 10,000 sq. ft. of gross floor area for buildings containing more than 100,000 ft.***	1 space provided, as required by City Planning Code
Long-term Parking	Not specified	None permitted	23 spaces proposed
Provision of a Transportation Broker	None required	Requirement	Sponsor would provide a transportation broker to encourage use of transit and ridesharing
Provision of Housing	None required	0.9 units per 1,000 sq. ft. of proposed sq. ft. of office+	Housing finance measure under consideration by project sponsor

* Additional FAR allowable for provision of housing (5:1); retention of or transferring development rights from significant architectural buildings (3:1); and for the provision of retail uses containing 2,000 sq. ft. or less per use (0.5:1). The maximum FAR, including allowable bonuses, is 17:1.
** Approximately 7,000 sq. ft. required for site developed at 12:1 FAR.
*** Two spaces required for site developed at 12:1 FAR.
+ Using this formula, approximately 130 housing units would be required for the project, based on net demand which does not include the existing 170 San Francisco Federal employees who would return to the project site.

SOURCE: City Planning Code; and Guiding Downtown Development, May 1981.

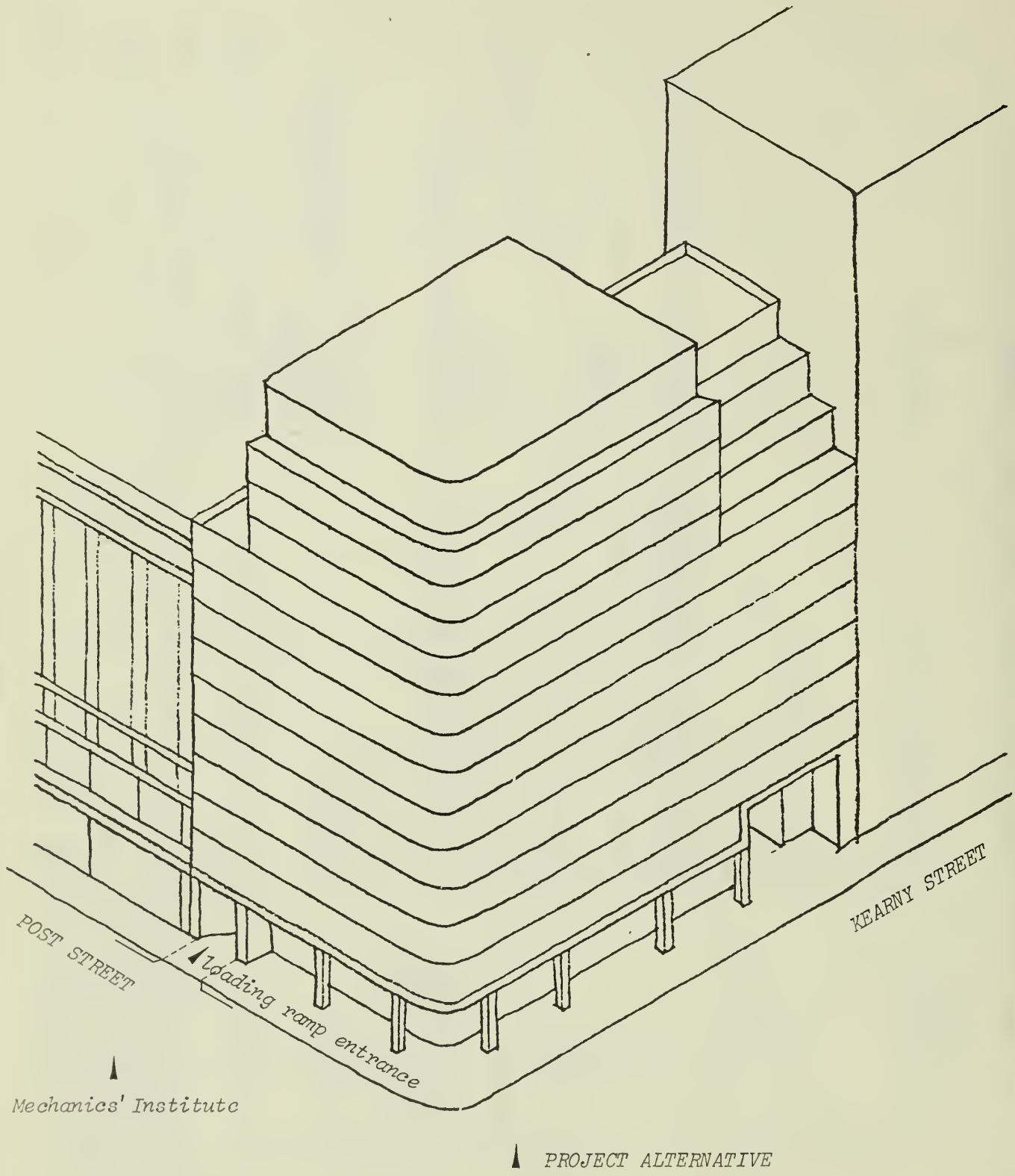


FIGURE 21: Alternative Complying with Guiding Downtown Development - Isometric View

SOURCE: Skidmore, Owings and Merrill

Like the proposed project, this alternative would incorporate a work of art into the public entrance alcove located opposite Maiden Lane. The proposed art requirement in GDD specifies that investment in art be equal to at least 1% of total construction cost.

The proposed recreation and open space requirement contained in GDD would be met in this alternative by providing approximately 7,000 sq. ft. of open space. This open space would be provided in a variety of ways, including a street-level entrance alcove accessible to the public and facing Maiden Lane (1,500 sq. ft.); a 10-ft.-wide street-level set back of the building facade (1,750 sq. ft.), forming a pedestrian arcade; a roof terrace adjacent to the proposed Mechanics Institute (1,350 sq. ft.); a roof terrace at the upper levels of the portion of the building facing Maiden Lane (1,500 sq. ft.); and three terrace decks on each of the step backs at the upper levels of the portion of the building facing Maiden Lane (900 total sq. ft./300 sq. ft. each). The 3,750 sq. ft. of terrace space would be used by building employees, and would not be accessible to the public. Proposed guidelines in GDD require that view and sun terraces be open and accessible to the public, and include seating and food and beverage service (GDD, p. C-17), so these terraces would not strictly comply. Incorporation of these features would require, by Code, larger stairwells for public access, further reducing the useable floor area in this alternative design. To forego the public access and food and beverage requirements, the project sponsor would have to request a variation of the requirements from the City Planning Department. Such variations would be permitted if a project design is considered to result in "a more unique and interesting feature adding to the diversity of downtown attractions" (GDD, p. C-16). The entrance alcove, incorporating a work of art, and the three upper-level step backs which would provide a visual terminius to Maiden Lane might be considered a unique and interesting feature of the project design to meet this criterion.

To comply with the proposed open space requirement, the floor area of the 5,000 sq. ft. corner savings branch would have to be reduced by approximately 1,750 sq. ft. to accommodate the proposed set back of the street-level building facade. Because a savings branch of 3,250 sq. ft. would not provide adequate space to conduct main-branch savings and loan operations planned for

this area, additional savings branch space would be provided by reducing, or possibly eliminating, the ground-level retail space currently proposed as part of the project.

This alternative would have an exterior design and ground-floor uses similar to those of the project. The public entrance alcove, and the Post St. entrance ramp to the basement level would be retained in this alternative. Land use, wind, shadow, and urban design impacts of this alternative would be slightly less than those of the proposed project, as the alternative design would contain approximately 30,000 sq. ft. less floor area and would be about 50 ft. shorter than the proposed structure. This alternative would accommodate an estimated 650 employees, 120 less than the project.

An alternative complying with GDD would have fewer transportation and circulation impacts in comparison to the proposed building because of the decreased size of the alternative building. This alternative would increase the parking deficit at the project site as no long-term parking would be permitted. To conform with GDD, two off-street loading bays would be provided, one more than would be provided by the proposed project. Access to off-street loading facilities would be from Post St., a transit preferential street (GDD, Map 8, p. D-11), requiring that "freight loading and service vehicle spaces be completely enclosed within the building..." (GDD, p./D-10), which is proposed by this alternative.

An alternative conforming to the transportation guidelines of GDD would affect long-range transporation conditions and planning in the downtown area by providing a transportation broker responsible for conducting programs among building tenants and employees to encourage carpooling, ridesharing and transit use, and by participating in studies of the feasilibility of intercept parking in the downtown area (GDD. p. 14).

To comply with the proposed housing development requirement contained in GDD, the sponsor would be required to "cause to construct and/or rehabilitate in San Francisco 640 sq. ft. of residential space (approximately 0.9 dwelling units for each 1,000 sq. ft. of office space" GDD p. E-1. Based on this housing demand formula, net demand would be generated for about 105 units of

housing, 20 units fewer than would be demanded by the proposed project. To fulfill this requirement, the sponsor would propose to provide a low-interest housing finance mitigation measure such as the one currently under consideration (see V. Mitigation Measures, pp. 104-105).

SPONSOR'S REASON FOR REJECTING ALTERNATIVE

The project sponsor has elected not to implement this alternative because floor areas would be reduced. Reduction or elimination of the proposed retail space to accommodate the proposed open space requirement and provide adequate savings branch space is not considered desirable by the project sponsor.

VIII. EIR AUTHORS AND CONSULTANTS; ORGANIZATIONS AND PERSONS CONSULTED

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San Francisco, Public Library
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San Francisco State Library
Government Publications
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132

Stanford University Library
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Stanford, CA 94305

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San Francisco, CA 94115

X. APPENDICES

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DEPARTMENT OF CITY PLANNING 100 LARKIN STREET · SAN FRANCISCO, CALIFORNIA 94102

FINAL INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST

SAN FRANCISCO FEDERAL SAVINGS AND LOAN
ASSOCIATION OFFICE BUILDING
85 POST STREET
SAN FRANCISCO *

EE 80.339

June 5, 1981

* Differences among data presented in the following Initial Study and the preceding Focused EIR are attributable to the availability of additional and more precise data during the subsequent preparation of the EIR.

ENVIRONMENTAL ASSESSMENT CHECKLIST
(Initial Study)

Project File No: EE 80.339 Title: San Francisco Federal Savings and Loan Association Office Building

Address: 85 Post Street Assessor's Block and Lot: 311/Lots 7, 8, 9, 10, and 11.

PROJECT DESCRIPTION SUMMARY

San Francisco Federal Savings and Loan Association proposes to construct a new office building in Downtown San Francisco in order to provide more efficient, functional space for its operations currently located at the site in 4 separate buildings, and to provide additional space for anticipated normal growth over the next 10 years. San Francisco Federal Savings and Loan (S & L) would be the principal tenant of the new building, occupying about 25% of the total gross floor area proposed.

The project site is located at the southeast corner of Post and Kearny Sts. opposite the site of the Crocker National Bank Headquarters Tower and Lick Place Shopping Galleria, which are currently under construction (see Figure 1 p. 148). The site encompasses Lots 7, 8, 9, 10 and 11 of Assessor's Block 311. The proposed 17-story office building would be about 230 ft. high and contain approximately 199,100 gross sq. ft. of floor area, exclusive of 1 basement floor. The ground floor would contain a savings branch of 5,000 net sq. ft. and approximately 1,600 net sq. ft. of retail commercial space. The basement level would contain an estimated 23 off-street parking spaces, and areas for off-street loading and mechanical equipment. In the current design concept, the portion of the building located on the southernmost part of the site would be stepped back along the width of Maiden Lane to terminate the vista extending from Union Square down Maiden Lane to Kearny St.

The total construction period would be about 24 months, beginning with demolition of the existing 5 buildings located on the site. San Francisco Federal S & L would relocate its employees and operations currently located at the site to other offices in San Francisco during project construction.

POTENTIAL ENVIRONMENTAL EFFECTS

Potential environmental effects resulting from the proposed project include provision of long-term parking which does not comply with policies of the Comprehensive Plan relating to long-term parking; the demolition of two buildings rated "B" in the Heritage survey; possible wind and shadow effects along Post and Kearny Sts.; obstruction of short-range views; urban design aspects; effects on transportation / circulation and air quality; construction noise; energy demand; and, increased demand for housing generated by the project. These issues will be analyzed further in a focused EIR which will be prepared for the project.

Potential environmental issues of the proposed project that have been determined insignificant, and therefore will not be addressed in the EIR, are discussed below.

Land Use Compatibility: The project would be consistent with land uses in the vicinity of the site and in the Downtown area.

Noise: After completion the project would not increase audible noise levels in the project vicinity. Operational noise would be regulated by the San Francisco Noise Ordinance and noise insulation measures contained in the Noise Guidelines of the San Francisco Comprehensive Plan.

Public Services and Utilities: The increased demand for public services and utilities attributable to the project would not require additional personnel or equipment. See p. 166 for mitigation measures to further reduce the need for public services and utilities at the project site.

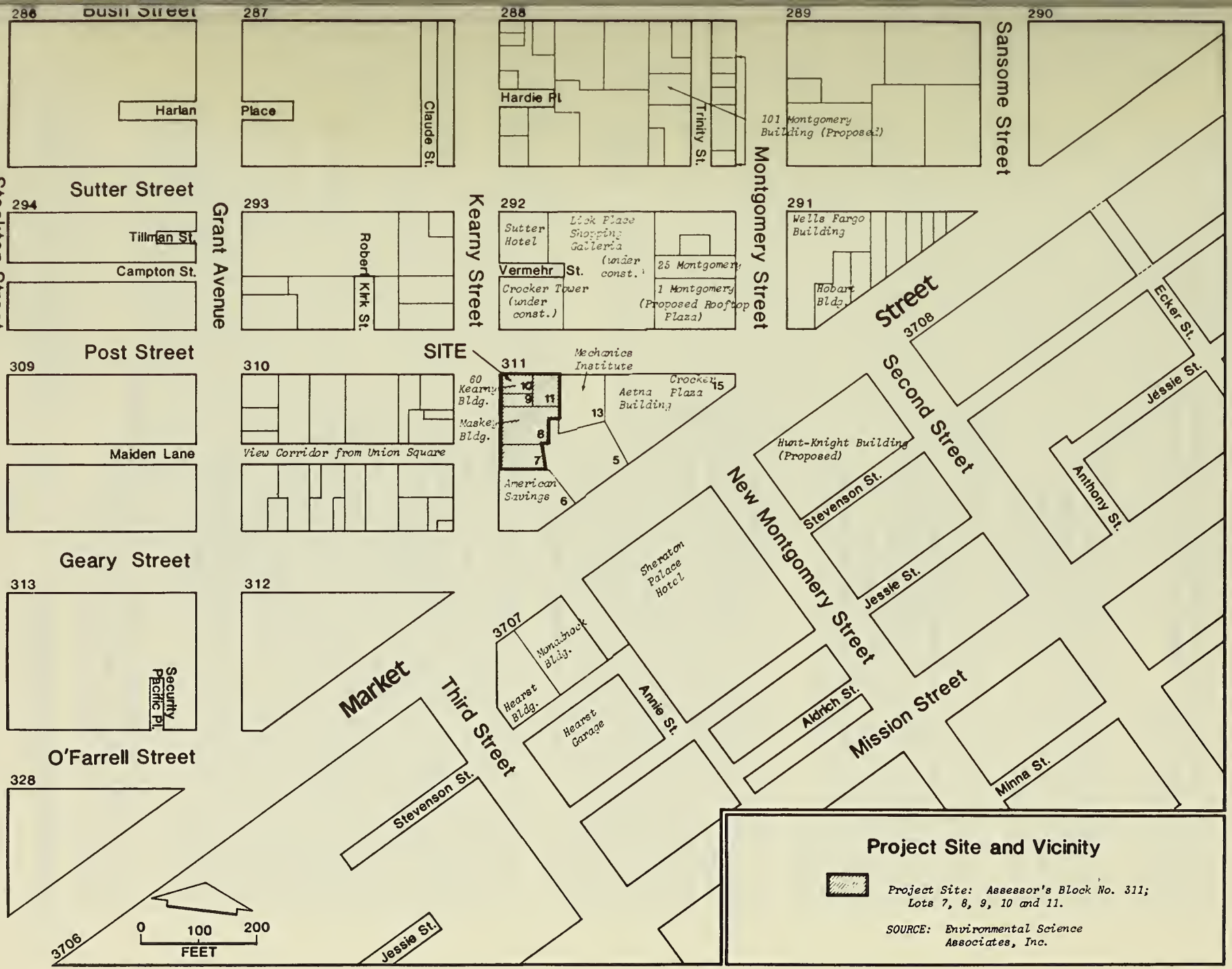
Biology: The project would have no effect on plant or animal life.

Topography, Geology and Soils: The project would require excavation of approximately 1,000 cu. yd. of soils and would not require any subsurface dewatering; refer also to Land mitigation measures on p. 167.

Water: Increased water demand attributable to the project would represent less than 1% of cumulative water demand in San Francisco. The project would incorporate low-flow faucet and toilet fixtures to reduce water consumption.

Hazard: The site and the project would neither cause nor be affected by hazardous uses or health hazards.

Cultural: No significant subsurface resources are expected to be encountered during construction. This topic will not be discussed in the EIR because of Mitigation Measure which has been committed to by the project sponsor to protect any potential resources. See mitigation measure under Cultural section on p. 167.



Project Site and Vicinity

Project Site: Assessor's Block No. 311; Lots 7, 8, 9, 10 and 11.

SOURCE: Environmental Science Associates, Inc.

FIGURE 1

A. GENERAL CONSIDERATIONS

	Yes	Maybe	No	N/A	Disc.*
1. Would the project conflict with the objectives and policies in the Comprehensive Plan (Master Plan) of the City?		X			X

The project would comply with provisions of the Comprehensive Plan, except for Objective 1, Policy 4 of the Downtown Transportation Plan which discourages long-term parking in the Downtown core.

The project would provide office space in the Financial District, which would be consistent with the specific statement in the City Planning Code describing the Downtown Office District (C-3-O) as "playing a leading national role in finance, corporate headquarters and service industries, and serving as an employment center for the region."

The proposed project would continue the use of the site as the main office of San Francisco Federal Savings and Loan Association, thereby complying with Objective 6 of the Commerce and Industry Element of the Comprehensive Plan to "maintain and improve San Francisco's position as a prime location for financial, administrative, corporate, and professional activity," and Policy 4 of Objective 6 to "maintain a compact downtown core."

The entrance alcove on Kearny St., located opposite Maiden Lane, would provide access to the ground-level retail space and savings branch; it would also incorporate a design feature, such as a commissioned work of art. The project architects are considering pedestrian access from the Kearny St. entrance through the building to Post St. It is the project architects' intent that these design features would be consistent with Policy 4 of Objective 6 to "provide adequate amenities for those who live, work and use Downtown," and Policy 3 of Objective 7, "encourage ... physical design amenities at a pedestrian scale which will enhance the pedestrian climate."

The 23 parking spaces planned for the basement level of the project would not conform to Objective 1, Policy 4 of the Downtown

* Further discussion warranted

	Yes	Maybe	No	N/A	Disc.*
Transportation Plan which "discourages the addition of new long-term parking spaces in and around downtown"; there are no long-term parking spaces currently provided at the site. The project would be within one block of the Montgomery Street subway which is served by BART and Muni Metro rail transit lines. The project would be directly accessible or close to bus lines serving San Francisco (Muni), Marin (Golden Gate Transit), the East Bay (AC Transit) and the Peninsula (Samtrans and by Muni connections to Southern Pacific commuter service), thereby facilitating use of public transit; this would be consistent with Objective 1, Policy 10 of the Downtown Transportation Plan, stating that private automobile traffic "must be reduced" and that "land use development and transportation services should be coordinated in a manner to maximize efficiency and minimize cost while preserving and strengthening the downtown environment." The off-street loading provided in the project would comply with the Objective 11, Policy 4, of the Citywide Parking Plan, which encourages off-street loading facilities.					
2. Would the project require a variance, or other special authorization under the City Planning Code?			X		X
The project would require discretionary review by the City Planning Commission under its Resolution 8474, which requires review of all projects in the Downtown area.					
3. Would the project require approval or permits from City Departments other than DCP or BBI, or from Regional, State or Federal agencies?			X		
**4. Would the project conflict with adopted environmental plans and goals?		X			
The proposed project would involve the demolition of two buildings contained in the City Planning Commission listing of Architecturally and/or Historically Important Buildings which merit special concern for preservation in part or in whole (Resolution 8600). The 60 Kearny St. Building (the Bullock and Jones Building) and 48-52 Kearny					

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*

St. Building (the Maskey Building) are included in this listing (see Figure 1, p. 148). The 60 Kearny St. Building and Maskey Building are also rated "3" and "4", respectively, on the Department of City Planning's list of architectural resources. Each of these buildings is rated "B" in the Downtown survey of buildings of architectural and historic merit conducted by the Foundation for San Francisco's Architectural Heritage. Another building on the site, the 79 Post St. Building, is rated "C" in the Heritage Foundation's survey.

The project architects and engineers are currently studying the structural feasibility of incorporating portions or design elements of the 60 Kearny St. Building and Maskey Building into the proposed project (see the discussion on Alternatives, p. 169).

B. ENVIRONMENTAL IMPACTS

1. Land Use. Would the proposed project:

a. Be different from surrounding land uses?			X		X

The project would contain uses similar to those currently occupying the site. There would be office uses above ground-level retail, and a savings branch office would be located at the corner of Post and Kearny Sts., as at present. Area in retail use would decrease from about 11,000 sq.ft. to about 1,600 sq. ft. Project land uses would be consistent with the dominant types of development in the site vicinity. Refer to Department of City Planning, May 18, 1979, EE 78.298 Crocker National Bank Final EIR p. 36 for a description of land uses adjacent to and south of the project site; and to Department of City Planning, December 12, 1980, EE 80.26 101 Montgomery Street Draft EIR, p. 27 for a description of land uses north of the project site.

* Further discussion warranted

	Yes	Maybe	No	N/A	Disc.*
**b. Disrupt or divide the physical arrangement of an established community?			X		X

No established circulation routes would be affected. Temporary construction effects may include blocking one lane of traffic on either Post St. or Kearny St. The project would reduce the number of trucks now using on-street loading zones because the project would provide an off-street loading dock. Pedestrian circulation would be altered. The project architects are considering the incorporation of a pedestrian access through the building from the entrance on Kearny St. to Post St. Possible impacts on the streetscape from new pedestrian circulation patterns will be evaluated in the EIR.

2. Visual Quality and Urban Design. Would the proposed project:

a. Obstruct or degrade any scenic view or vista open to the public?			X		X

The proposed 17-story, 230-ft.-high building would be lower than the existing surrounding highrise buildings which define the vista of the Downtown area. The proposed building would not block views of the Bay and would not be seen from major vista points such as the Golden Gate Bridge, Yerba Buena Island, Nob Hill, Telegraph Hill, or Twin Peaks because the existing 38-story, 527 ft. high Aetna Building, the 40-story, 500 ft. high Crocker Tower, now being constructed, or other existing buildings would intervene. See Department of City Planning, May 18, 1979, Crocker National Bank Northern California Headquarters, Final EIR, EE 78.298, Figures 32, 33, 35, 36, and 36A, on pp. 80, 82, 85, 86, and 87, respectively, for views of the project site from major vista points; the project site is opposite the site of the Crocker Tower (see Figure 1, p. 148)

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
b. Reduce or obstruct views from adjacent or nearby buildings?	X				X

The buildings now on the site range from 3 to 7 stories. The proposed project would be 17 stories and would reduce short-range, north-facing views of the skyline from Market St.; long-range views to Nob Hill and Telegraph Hill would be obstructed by the 40-story Crocker Tower. Existing east-facing views toward the Ferry Building and the Bay from seventh- to fifteenth-floor windows of the 15-story American Savings Building would be reduced; however, the portion of the project adjacent to the American Savings Building would be stepped back and reduced in height. The step-backs would be landscaped. The project would eliminate west-facing views from the upper two floors of the 9-story Mechanics Institute at 57-65 Post St. Short-range views to the south from the upper levels of buildings opposite the site on Kearny St., now impaired by the 38-story Aetna Building, would be further reduced by the project.

Short-range views to the site from Union Square down Maiden Lane to Kearny St. would be altered by the proposed entrance alcove on Kearny St. that would be landscaped and would incorporate a visual feature such as a commissioned work of art. Upper level views of the site from Union Square up Maiden Lane currently consist of the mechanical equipment, roof tops, and rear facades of buildings on the project block that face Market St.

**c. Create a negative aesthetic effect?		X			X

Materials for the building facade have not yet been selected. The proposed design concept states that the building exterior would be light in color to maintain the existing color value of buildings now on the site and across Kearny St., and to contrast with the darker Aetna and Crocker office towers. The proposed building facade would extend from the Mechanics Institute Building on

* Further discussion warranted
**Denotes State EIR Guidelines, Appendix G, normally significant effect.

	Yes	Maybe	No	N/A	Disc.*
Post St. to the American Savings Building on Kearny St., thereby maintaining a continuous street-level building facade. A spandrel at the first-floor level of the proposed building would approximate the elevation of the first-floor cornice line of the American Savings Building and the Mechanics Institute Building (rated "A" in the Heritage Survey), establishing a visual link with these buildings. Project plans call for the removal of two buildings rated "B" in the Heritage Survey, the 60 Kearny St. Building and the Maskey Building. Project design, in relation to other buildings, will be analyzed further in the EIR for this project.					
d. Generate light or glare affecting other properties?			X		X
Non-reflective glass would be used.					
3. Population/Employment/Housing. Would the proposed project:					
a. Alter the density of the area population?	X				X
The total daytime population at the site would be an estimated 770 persons. This would represent a net increase of about 600 persons. The 170 San Francisco Federal S & L employees currently working at the site would relocate into the new building.					
**b. Have a growth-inducing effect?	X				X
The project would stimulate the regional economy of the San Francisco Bay Area by creating temporary and net new permanent employment. Indirect economic effects would result as new job holders purchase goods and services in the City and throughout the region, creating new employment and income opportunities. New permanent jobs would affect the regional housing market, primarily as increased demand for moderate-income housing units.					

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
c. Require relocation of housing or businesses, with a displacement of people, in order to clear the site?	X				X

No housing would be displaced by the proposed building. Construction of the project would displace 16 businesses, employing an estimated 50 persons (not including the 170 San Francisco Federal S & L employees). San Francisco Federal S & L would be temporarily displaced during the construction period.

d. Create or eliminate jobs during construction and operation and maintenance of the project?	X				X

During the estimated 24-month construction period, the project would create approximately 160 full-time construction jobs and an equal amount of indirect jobs through the multiplier effect. If any of the businesses to be relocated from the existing buildings were to cease operation or move to a location outside of San Francisco, then up to 50 jobs could be eliminated from the city's employment base. The project would result in a net increase of about 550 new jobs in San Francisco (excluding the 170 existing jobs that would continue to be held by employees of San Francisco Federal S & L).

e. Create an additional demand for housing in San Francisco?	X				X

The project would result in a net increase in the employment base of about 600 permanent jobs. Assuming 40% of these workers wished to live in San Francisco, and assuming 1.8 workers per household, the project would create a demand for about 135 additional housing units in San Francisco (see Department of City Planning, March 12, 1981, Five Fremont Center Final EIR, EE 80.268, pp. 89-90 and Table 12, p. 92, for the basis of these assumptions). This additional housing demand represents about 1% of the total new housing units constructed in San Francisco during

* Further discussion warranted

	Yes	Maybe	No	N/A	Disc.*
1979. Additional analysis of the project's effect on the housing market will be included in the EIR.					
4. Transportation/Circulation. Would the construction or operation of the project result in:					
a. Change in use of existing transportation systems? (transit, roadways, pedestrian ways, etc.)	X				X
The increased employment at the site would impose increased demands on all existing public and private transportation systems, incuding Muni, BART, Golden Gate Transit, AC Transit, SamTrans, and the Southern Pacific. Existing pedestrian access and movement also would be changed. These impacts will be analyzed further in the EIR.					
**b. An increase in traffic which is substantial in relation to existing loads and street capacity?			X		X
Traffic at intersections in the project area would increase noticeably, but would not produce traffic volumes in excess of capacity. The EIR will discuss these impacts.					
c. Effects on existing parking facilities, or demand for new parking?	X				X
Project parking demands would not be met with on-site parking and would not be accommodated by existing parking near the project. This impact will receive additional evaluation in the focused EIR.					
d. Alteration to current patterns of circulation or movement of people and/or goods?	X				X
The project would provide off-street loading facilities where presently all loading occurs in on-street loading zones, thus altering circulation around the project site. This change will be discussed in the EIR.					

* Further discussion warranted
**Denotes State EIR Guidelines, Appendix G, normally significant effect.

	Yes	Maybe	No	N/A	Disc.*
e. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	X				X
The driveway entrance to underground parking and loading could result in pedestrian - vehicle and vehicle - vehicle conflicts and hazards. The EIR will analyze traffic hazards associated with the driveway entrance.					
f. A need for maintenance or improvement or change in configuration of existing public roads or facilities?	X				X
The project would require a curb cut on Post St. for access to the underground parking and off-street loading areas.					
g. Construction of new public roads?			X		
5. Noise.					
a. Would the proposed project result in generation of noise levels in excess of those currently existing in the area?	X				X
During operation, the project would not be expected to generate audible increases in existing noise levels. Mechanical equipment would be located in the rear of the building. This new equipment would be expected to be quieter than the mechanical systems in the 5 buildings currently at the site because of its greater efficiency. Operational noise would be regulated by the San Francisco Noise Ordinance, Section 2909, "Fixed-Source Noise Levels" (San Francisco Municipal Code, Part II, Chapter VIII, Section I, Article 29, 1972). This section states that noise from mechanical equipment may not exceed 60 dBA between the hours of 10 p.m. and 7 a.m., or 70 dBA between the hours of 7 a.m. and 10 p.m. at the receiver's property line. The incidence and levels of noise generated in the area by loading activities at the site would be reduced because loading would be consolidated and take place inside of the building rather than on the street as at present.					

* Further discussion warranted

	Yes	Maybe	No	N/A	Disc.*
Project construction would involve intermittent foundation piledriving during a one-month period. Construction noise effects will receive further consideration in the EIR.					
b. Would existing noise levels impact the proposed use? Are Title 25 Noise Insulation Standards applicable?	___	___	X	___	X
Commercial, retail and office uses are required by the Noise Guidelines of the City and County of San Francisco to have noise insulation measures when exterior Ldn noise levels are above 70 dBA (Environmental Protection Element, San Francisco Comprehensive Plan, 1974, Transportation Noise Section, Land Use Compatibility Chart for Community Noise, p. 19). Noise measurements were taken on Post and Kearny Sts. near the site for the noise analysis contained in the Crocker National Bank Final EIR (see pp. 66 - 69). According to the Crocker Final EIR, 1981 noise levels would be 70-75 dBA at these locations. Thus, the proposed building would be required to have noise insulation features according to the Guidelines. It is anticipated that the proposed structure would be climate-controlled and have fixed windows, therefore noise insulation measures would be included as part of the design. The proposed structure does not include housing and Title 25 Noise Standards would not be applicable.					
6. Air Quality/Climate. Would the proposed project result in:					
**a. Violation of any ambient air quality standard or contribution to an existing air quality violation?	X	___	___	___	X
Project-related traffic would add to local and regional accumulations of carbon monoxide, hydrocarbons, and nitrogen oxides (the latter two being precursors of ozone), particulates and sulfur oxides during adverse meteorological conditions, such as inversions (U.S. EPA, 1977, Compilation					

* Further discussion warranted
**Denotes State EIR Guidelines, Appendix G, normally significant effect.

		Yes	Maybe	No	N/A	Disc.*
	of Air Pollutant Emission Factors, AP-42). The project would impede attainment of standards, but would probably have no measurable effect on citywide or regional concentrations nor on the frequency of violation of the standards. In the absence of implementation of control strategies, cumulative development in the Downtown area would increase ambient concentrations and the frequency of standard violations. These impacts will receive further consideration. During construction, the project could result in temporary particulate (dust) emissions in violation of State standards, and increased emissions of nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons and particulates. The EIR will discuss this impact.					
**b.	Exposure of sensitive receptors to air pollutants?			X		
c.	Creation of objectionable odors?			X		
d.	Burning of any materials including brush, trees, or construction materials?			X		
e.	Alteration of wind, moisture, or temperature (including sun shading effects), or any change in climate, either locally or regionally? Based on a preliminary wind effect analysis, the project, in combination with the American Savings Building and the Crocker Tower, presently under construction, might contribute to the creation of west winds along Kearny St. and the channeling of winds along Post St. A wind tunnel study will be required to determine wind effects of the project more precisely; results of that study will be included in the focused EIR. The project would increase shadows on sidewalks along Post and Kearny Sts. The project might cast afternoon shadows for short periods on the western portion of the proposed Crocker rooftop plaza. The	X				X

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
project would not shade the rooftop plaza during the mornings or at midday during any season of the year. Any potential shadows cast on the existing Crocker Plaza on Market St. would be masked by shadows cast by the 38-story Aetna Building. Further analysis of afternoon shadows will be included in the EIR.					
7. Utilities and Public Services. Would the proposed project:					
a. Have an effect upon, or result in a need for new or altered, governmental services in any of the following?					
fire protection			X		X
police protection			X		X
schools			X		
parks or other recreational facilities			X		
maintenance of public facilities			X		X
power or natural gas utilities			X		X
communications systems			X		X
water			X		X
sewer/storm water drainage			X		X
solid waste collection and disposal			X		X
The project would not require any additional police or fire protection equipment or personnel (J. Shanon, Deputy Chief of Police, San Francisco Police Department, letter communication February 9, 1981; and J. Sullivan, Chief, Division of Planning and Research, San Francisco Fire Department, letter communication, February 17, 1981). The project could result in an increase in burglary and petty theft in the area because of the increase in downtown population and property value.					
In addition to security measures that are normally used at the ground-level savings					

* Further discussion warranted

branch office, the project sponsor would include internal security measures in the project such as a closed-circuit camera system and building security staff. The proposed project would incorporate in its design all fire safety measures required by the San Francisco Building Code, including sprinkler and alarm systems, emergency communication systems, and an emergency power source among others.

Gas mains, electric transmission lines, and telephone lines located in the project vicinity would be adequate to provide electrical, natural gas and communication services to the proposed structure (A.R. Williams, Industrial Power Engineer, PG&E, letter communication, March 2, 1981 and W. Ottens, Assistant Manager, Engineering, telephone communication, May 14, 1981).

Water demand due to the project would be about 20,000 gallons per day (gpd). The project would increase the demand for water at the site (see item 10 c. below); however, existing water mains in the vicinity of the project would be capable of handling the increased demand. (J.E. Kenck, Manager, San Francisco Water Department, City Distribution Division, letter communication, February 10, 1981.

The proposed building would generate an estimated 20,000 gpd of dry-weather wastewater flows, which represent less than 1% of the average flows currently treated by the North Point Sewage Treatment Plant and less than 1% of the treatment flows to the Southeast Treatment Plant when it goes into interim operation in 1982. Flows to the North Point Plant, which currently serves the project site, will be directed to the southeast plant at that time. No expansion of the present collection and treatment system would be necessary to serve the proposed project. (M. Francies, Engineering Associate II, San Francisco Clean Water Program, Cleanwater Engineering, letter communication, February 11, 1981).

* Further discussion warranted

	Yes	Maybe	No	N/A	Disc.*
About 1.1 tons of solid waste per day would be generated by the project; Golden Gate Disposal Company, which currently serves the site, states that it would be able to provide service to the proposed project (F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, February 20, 1981).					
The effects of cumulative downtown development on public service demand will be discussed in the EIR.					
8. Biology.					
a. Would there be a reduction in plant and/or animal habitat or interference with the movement of a migratory fish or wildlife species?			X		
**b. Would the project affect the existence or habitat of any rare, endangered or unique species located on or near the site?			X		
c. Would the project require removal of mature scenic trees?			X		
9. Land. (topography, soils, geology) Would proposed project result or be subject to:					
**a. Potentially hazardous geologic or soils conditions on or immediately adjoining the site? (slides, subsidence, erosion and liquefaction)	X				X
The project site would be subject to strong groundshaking and potential liquefaction during earthquakes. The project sponsor's licensed engineer would design the structure to meet seismic design standards of the San Francisco and the Uniform Building Codes. The proposed structure would pose fewer seismic hazards in the event of an earthquake than the existing buildings on the project site because it would be constructed to meet current Building Code standards. The proposed structure could be damaged in a major earthquake, but would not be expected to topple or collapse.					

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
Because of the presence of a potentially compressible layer of material 35 to 45 feet beneath the site surface, the geotechnical consultants for the project have recommended driven displacement piles about 35 feet in length as the most suitable foundation type (Harding-Lawson Associates, 1981). Settlement could occur but would be expected to be minimal. Adjacent buildings may need underpinning during the excavation period, depending on their foundation types. For further discussion of geologic conditions in the vicinity of the site see EE 78.298, Crocker National Bank Final EIR, pp. 74-75 and pp. 136-137.					
b. Grading? (consider height, steepness and visibility of proposed slopes; consider effect of grading on trees and ridge tops).			X		
Some excavation would take place below the levels of existing basements. See 9.c., below.					
c. Generation of substantial spoils during site preparation, grading, dredging or fill?			X		X
The project would not generate a substantial amount of spoils during site preparation and grading. An estimated 1,000 cu. yds. of excavated spoils would be generated. The project construction consultant states that excavation could extend approximately 6 to 8 ft. below the basement levels of the existing buildings on the site. The excavated material would be disposed of at an approved, private disposal site.					
10. Water. Would the proposed project result in:					
**a. Reduction in the quality of surface water?			X		
**b. Change in runoff or alteration to drainage patterns?			X		

* Further discussion warranted
**Denotes State EIR Guidelines, Appendix G, normally significant effect.

	Yes	Maybe	No	N/A	Disc.*
**c. Change in water use?	X				X
The project would demand about 20,000 gpd of water, which represents less than one percent of water demand by cumulative downtown development.					
**d. Change in quality of public water supply or in quality or quantity (dewatering) of ground water?			X		
Geotechnical investigations at the nearby Crocker National Headquarters and 101 Montgomery St. Building project sites indicate that the water table is 35 - 45 ft. below the surface, which would be below the level of proposed excavation. Excavation for the proposed project could extend about 6 to 8 ft. below the basement levels of existing buildings on the site. Dewatering would be necessary only to drain surface water runoff from the site during periods of heavy rainfall; this would not affect the foundations of buildings adjacent to the project site.					
11. Energy/Natural Resources. Would the proposed project result in:					
**a. Any change in consumption of energy?	X				X
The project would result in a net increase in the amount of energy used at the site. The project would conform to energy requirements of Title 24 of the California Administrative Code so that energy use per square foot of floor area would be less than at present. Further evaluation of the project's demand for energy, including electrical gas demand, will be discussed in the EIR.					
**b. Substantial increase in demand on existing energy sources?			X		X
The proposed project would contribute to cumulative energy consumption by Downtown development that will result in the depletion of nonrenewable energy resources.					

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
c. An effect on the potential use, extraction, conservation or depletion of a natural resource?	___	___	X	___	X

See the discussion under 11.b., above.

12. Hazards. Would the proposed project result in:

**a. Increased risk of explosion or release of hazardous substances (e.g. oil, pesticides, chemicals or radiation), in the event of an accident, or cause other dangers to public health or safety?	___	___	X	___	___
**b. Creation of or exposure to a potential health hazard?	___	___	X	___	___
c. Possible interference with an emergency response plan or emergency evacuation plan?	___	___	X	___	___

13. Cultural. Would the proposed project:

**a. Include or affect a historic site, structure or building?	X	___	___	___	X

The project, as currently proposed, would result in the demolition of the Maskey Building and 60 Kearny St. Building, which are included on the Planning Commission's adopted list of Architecturally and/or Historically Important Buildings in the Downtown area and are rated "B" by the Heritage Foundation architectural/ historical survey. See the preceding discussion under A.4. and B.2.

**b. Include or affect a known archaeological resource or an area of archaeological resource potential?	___	___	X	___	X

The project site has been urbanized for about 120 years and each portion of the site has undergone transition from one form of building to another. Excavation for the proposed project would extend about 6 to 8 ft. below the basement levels of existing buildings on the site. As the project site is inland of the original shoreline of Yerba Buena Cove, and would require little new

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

	Yes	Maybe	No	N/A	Disc.*
excavation, it is probable that no intact cultural or historic materials would be encountered, but scattered artifacts may be found (see 101 Montgomery Final EIR, May 7, 1981, EE 80.26, p. 63; and Crocker National Bank Final EIR, May 18, 1979, EE 78.298, p. 77).					
**c. Cause a physical change affecting unique ethnic or cultural values?	___	___	X	___	___

	Yes	No	Disc.*
C. MITIGATION MEASURES:			
Are mitigation measures included in the project?	X	___	X

Mitigation measures for impacts to be analyzed in the EIR will be included in the EIR and are not presented below. Measures listed below pertain only to environmental issues which have been focused out of the EIR.

The following mitigation measures are proposed as part of the project and have been committed to by the project sponsor:

UTILITIES AND PUBLIC SERVICES

- To reduce the need for police protection services, San Francisco Federal Savings and Loan would provide internal security measures for the proposed offices such as a guard station at the employee entrance, closed circuit television cameras, and internal security personnel; these measures would be in addition to the normal security measures that would be provided by San Francisco Federal S & L at the savings branch.

- The project would incorporate all emergency response systems stipulated by the Life Safety Code, including fire alarms, an emergency communication system, emergency communication systems, an emergency power supply and an on-site emergency water supply. These measures would reduce hazards to building occupants during an earthquake or fire.

* Further discussion warranted
** Denotes State EIR Guidelines, Appendix G, normally significant effect

- The project would incorporate low-flow faucet and toilet fixtures to reduce water consumption and wastewater volume.

- Containers would be available to building tenants for collection and storage of recyclable solid wastes, such as glass, metal, computer cards, and newspapers.

- The building would be equipped with a trash compactor to reduce the volume of solid waste requiring storage and transport.

LAND (Topography, Soils, Geology)

- A detailed foundation and structural design study would be conducted for the building by a licensed structural engineer and a geotechnical consultant. The project sponsor would follow the recommendations of these studies during the final design and construction of the project.

- The project sponsor would post a surety bond, if required by the San Francisco Department of Public Works, before issuance of a permit to excavate. Such a bond would protect the City against damages to City-owned sidewalks, streets and utilities. The project sponsor would require the project contractor to obtain a Faithful Performance and Payment Bond and to be responsible for any damage to existing buildings which might result from excavation. This bond would protect the project sponsor and owners of adjacent properties if any damage to these properties were to result from construction activities.

CULTURAL

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist with

* Further discussion warranted

	Yes	No	Disc.*
agreement of the Office of Environmental Review to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.			
Are other mitigation measures available?	X		X
Several additional measures are available to mitigate potential impacts of the proposed project. These mitigation measures will be included in the EIR.			
D. ALTERNATIVES:			
Were other alternatives considered?	X		X
The EIR will discuss the following alternatives:			
- Office development with a 12:1 Floor Area Ratio and applicable floor area bonuses as outlined in the Department of City Planning, "Guiding Downtown Development", May 1981.			
- Combined office and residential alternative with at least 1/3 of the floor area proposed for housing.			
- Design alternative which structurally preserves or incorporates the facade of the Maskey Building or the 60 Kearny St. Building.			
- The no-project alternative, as required by the California Environmental Quality Act.			

* Further discussion warranted

		Yes	No	Disc.*
E.	MANDATORY FINDINGS OF SIGNIFICANCE:			
**1.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	___	X	___
**2.	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	___	X	___
**3.	Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and possible future projects.) The project would contribute to cumulative effects of downtown development on transportation, housing, air quality, and the depletion of nonrenewable energy resources.	X	___	X
**4.	Would the project cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___
**5.	Is there a serious public controversy concerning the possible environmental effect of the project?	___	X	___

* Further discussion warranted
**Denotes State EIR Guidelines, Appendix G, normally significant effect.

the basis of this initial evaluation:

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers____, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

___ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Robert W. Passmore
Assistant Director-Implementation

for

Dean L. Macris
Director

Date: 5/12/81

APPENDIX B: MICROCLIMATE IMPACT STUDY FOR THE PROPOSED SAN FRANCISCO FEDERAL SAVINGS AND LOAN OFFICE BUILDING, MAY 1981

I. INTRODUCTION

Architects, engineers, and city planners designing urban structures, are limited by the lack of information on wind effects due to structures, such as pedestrian discomfort and wind-caused mechanical problems with doors, windows, and ventilating systems. Once a strucure is built, remedial measures (if they exist at all) usually are expensive.

It is virtually impossible to anticipate, by analysis or intuition, the winds that will be caused by a structure, as they are determined by complex interactions of forces. Fortunately it is possible to predict the wind patterns and pressures around structures by testing scale models in a wind tunnel which can simulate natural winds near the ground. This allows the designer to forsee possible environmental and mechanical problems and alleviate them before the building is erected.

Data from wind tunnel tests can be combined with climatological data in analysis of the effect of a proposed structure on pedestrians in terms of human comfort. The frequency distribution on wind strengths at pedestrian level, combined with temperature data and shadow patterns of the proposed structure and its surroundings, can be used to forecast comfort at pedestrian levels.

II. SUMMARY

Wind tunnel tests of scale models were conducted for the existing site, the proposed project, and an alternative project for the two most frequent wind directions in San Francisco. The existing site was found to have moderate to high windspeed ratios under northwest winds, with the highest windspeed ratios along Kearny Street north of Post Street, Post Street south of the site, and the southwest corner of the Kearny/Geary/Market Streets intersection.

For west winds, existing windspeed ratios ranged from low to moderately high, with the highest windspeed ratios occurring east of the site along Post Street.

The proposed project would increase windspeed ratios for both wind directions along Post Street east of the site and along Kearny Street south of the site. Corresponding windspeed ratio decreases were found at the Post/Kearny Streets intersection and sidewalk areas adjacent the site.

The proposed project and alternative had no effect on winds at the proposed Crocker National Bank Terrace at the northwest corner of the Montgomery/Post Streets intersection.

Mitigation measures for wind impacts were included in the project design. Additional design measures to reduce wind impacts are suggested. The effectiveness of these measures can only be measured through additional wind tunnel tests.

III. BUILDING AND SITE DESCRIPTION

The project site is located at the northwest corner of the block bounded by Kearny, Market and Post Streets in downtown San Francisco. The area upwind from the site to the northwest and west contains buildings of 3 to 8 stories. The east end of the block is occupied by the Aetna Building and Crocker Plaza. The Crocker Center highrise, about 500 feet high and directly across Post Street from the site is under construction.

The proposed project is a 17-story, 230-foot office building. The building would cover the entire site up to the tenth floor. A smaller tower and 3-level landscaped terraces would extend above 10 floors. The terrace would be located in a "gap" between the project tower and the adjacent American Savings Building. The corner of the building fronting the Post/Kearny intersection would be rounded.

An alternative to the proposed design was also tested in the wind tunnel. This alternative would be a 270-foot tower with a 60-foot lowrise section opposite Maiden lane and adjacent the American Savings Building. The lowrise section would have a slanted rooftop.

IV. MODEL AND WIND TUNNEL FACILITIES

Model

Scale models of the proposed buildings and the structures surrounding the area for a distance of several blocks were constructed of polystyrene and urethane foams at a scale of 1 inch equals 30 feet. Building configurations and heights were obtained from the Sanborn maps at the San Francisco Department of City Planning and from site visits.

Wind Tunnel Facilities

The Environmental Impact Planning Corporation boundary layer wind tunnel was designed specifically for testing architectural models. The working sections is 7 feet wide, 43 feet long, and 5 feet high. Wind velocities in the tunnel can be varied from 3.5 mph to 13 mph. The flow characteristics around sharp edged objects, such as architectural models, are constant over the entire speed range. Low speeds are used for tracer smoke, high speeds for windspeed measurements.

Simulation of the characteristics of the natural wind is facilitated by an arrangement of turbulence generators and roughness upwind of the test section. These allow adjustments in wind characteristics to provide for different scale models and varying terrain upwind of the project site.

Measurements of windspeed around the model are made with a hotwire anemometer, a device that relates the cooling effect of the wind on a heated wire to the actual windspeed. The flow above the city is measured by a Pitot tube connected to a micromanometer. The Pitot tube and micromanometer measure directly the pressure difference between moving and still air. This pressure

difference is then related to the actual windspeed. Flow visualization is achieved by use of floodlit smoke.

V. TESTING METHODOLOGY

Simulation of Flow

The most important factors in ensuring similarity between flow around a model in a wind tunnel and flow around the actual building are the structure of the approach flow and the geometric similarity between the model and the prototype. A theoretical discussion of the exact criteria for similarity is not included in this paper, but may be found elsewhere (Cermak, 1966, or Cermak and Arya, 1970).

The variation of windspeed with height (wind profile) was adjusted for the scale of the model and the type of terrain upwind of the site. The profiles used were those generally accepted as adequately describing the flow over that type of terrain (Lloyd, 1967).

Testing Procedure

The windflow characteristics of the site in its current state were investigated to ascertain the present wind environment. Windspeeds and wind directions at specified points throughout the site were measured and recorded. Wind direction was measured by releasing smoke at each point and recording the direction in which the smoke traveled. Windspeed measurements were made at the same points, at a scale height of 5 feet above the ground. A hotwire anemometer probe is required to make these measurements within a fraction of an inch of the model surfaces. The probe is repeatedly calibrated against the absolute reading of a Pitot tube and micromanometer. Velocity readings close to the model are generally accurate to within 10% of the true velocity.

Measurements for the building are made by keeping the probe in place while replacing the existing buildings with each proposal under consideration.

Before and after each test run, a calibration measurement was made above the model. The purpose of these measurements was to relate the wind tunnel measurements to actual wind records from U.S. Weather Service wind instrumentation located on the Federal Building at 50 Fulton Street.

VI. TEST RESULTS AND DISCUSSION

Tests were conducted for northwest and west winds, the 2 most frequent wind directions in San Francisco.

Measured windspeeds are expressed as percentages of the calibration windspeed, which corresponds to the actual windspeed at the San Franisco Weather Station. Thus, a plotted value of 52 means that the measured windspeed is expected to be 52% of the windspeed recorded by the Weather Service when winds are from that particular direction.
The plotted values can be interpreted in terms of general "windiness" using the scale below. This scale is subjective and is based on information gathered from similar studies in San Francisco.

Velocity	Percentage of Calibration Windspeed
Low	0-0.19
Moderately low	0.20-0.29
Moderate	0.30-0.49
Moderately high	0.50-0.69
High	0.70-1.00
Very high	greater than 1.00

The plotted values are not actual windspeeds, but ratios. Thus, a point having a "very high" windspeed ration would still experience light winds on a near-calm day. Likewise, a point found to have a "low" winds could experience significant winds on a windy day.

Wind direction is indicated by an arrow pointing in the direction of flow. Where wind direction fluctuated, two arrows representing the pricipal flow directions were plotted.

Areas of fluctuating winds are normally turbulent, as are areas of spiraling motion; the latter are denoted by curved arrows.

Northwest Wind

Northwest winds occur 12 to 39% of the time in San Francisco, depending on the season. (In meteorology, a northwest wind blows from the northwest). Northwesterly and westerly winds are the most frequent and the strongest winds at all seasons in San Francsco. Northwest winds exceed 13 miles per hour 35% of the time and 25 miles per hour 3% of the time in summer. (These windspeed categories are used because wind frequency data are broken down into categories of 4-13 mph, etc.) Wind frequencies and speeds are lower in spring, fall, and winter.

Existing windspeed ratios for northwest winds are shown in Figure 1, page 180. Windspeed ratios in the project vicinity range from moderate to high. The highest ratios occur along the east side of Kearny Street north of Post Street, along the south side of Post Street east of the site and at the southewest corner of the Kearny/Geary/Market Streets intersection.

Windspeed ratios with the proposed project are shown in Figure 2, page 181. Increases from 3% to 22% are predicted along Post Street east of the project site. Maximum windspeed ratios in this area would not be affected; windspeed ratios would still range from moderate to high.

Increases from 4% to 28% would occur along Kearny Street south of the site. The sidewalk areas adjacent to the site and along Post Stret west of the Post Street/Kearny Street and Maiden Lane intersetion would experience windspeed ratio decreases from 4% to 11%.

A similar pattern of increases and decreases would occur for the alternative project (Figure 3, page 182). Increases east of the site on Post Street would be greater ranging from 6% to 24%, while increases south of the site along Kearny Street would be similar to those for the proposed project. Windspeed ratio decreases adjacent the site and west of the site along Post Street and along Maiden Lane would be less than for the proposed project, ranging from 2% to 9%.

West winds occur between 15 to 40% of the time, depending on the season. They exceed 13 miles per hour 20% of the time and 25 miles per hour 7% of the time in summer. Wind strengths and frequencies are somewhat lower in spring, fall and winter.

Measured data for the existing site under west wind conditions are shown in Figure 4, page 183. Windspeed ratios range from low to moderately high. The lowest windspeed ratios occur along Post Street west of the Post/Kearny Streets intersection. The highest windspeed ratios were found along Post Street east of the site.

The proposed project would increase windspeed ratios by 2% along the south side of Post Street east of the site. Reductions of 4% to 8% would occur near the Post/Montgomery/Market Streets intersecion (Figure 5, page 184). Windspeed reductions of 2% to 13% would occur at the Post/Kearny Streets intersection. South of the site along Kearny Street, windspeed ratio increases of 2% to 16% would occur.

The alternative project would cause a similar pattern of increases and decreases, but increases would be larger and decreases near the Post/Kearny Streets intersecton would be less, ranging from 2% to 4% (Figure 6, page 185).

VII. MITIGATION MEASURES

Both the project and the project alternative incorporate "gaps" opposite Maiden Lane, a design feature that relieves the pressure differences generated by the building by allowing wind to pass through the gap and not reach ground level. The lower height of the proposed project (in relation to the alternative) is evidently responsible for the lesser wind impacts associted with the project.

Reduction in wind impacts cound be accomplished with re-massing of the project. A design incorporating setbacks from Post and Kearny Strees could be expected to have lesser wind impacts. The effectiveness of such a design change can only be measured by additional wind tunnel tests. The aesthetic, functional and structural aspects of such a design modification have not been analyzed.

A second type of mitigation measures involves additions to the project that would provide local shelter for pedestrians. Small structures such as kiosks for newspaper or flower vendors, telephone booths, and shelters at bus stops can serve in this way. Similarly, street trees and other vegetation can function as windbreaks.

Such additons would be appropriate along Post and Kearny Streets east and south of the site, respectively. The proposed terraces opposite Maiden lane should include wind protection if they are to be used for outdoor eating.

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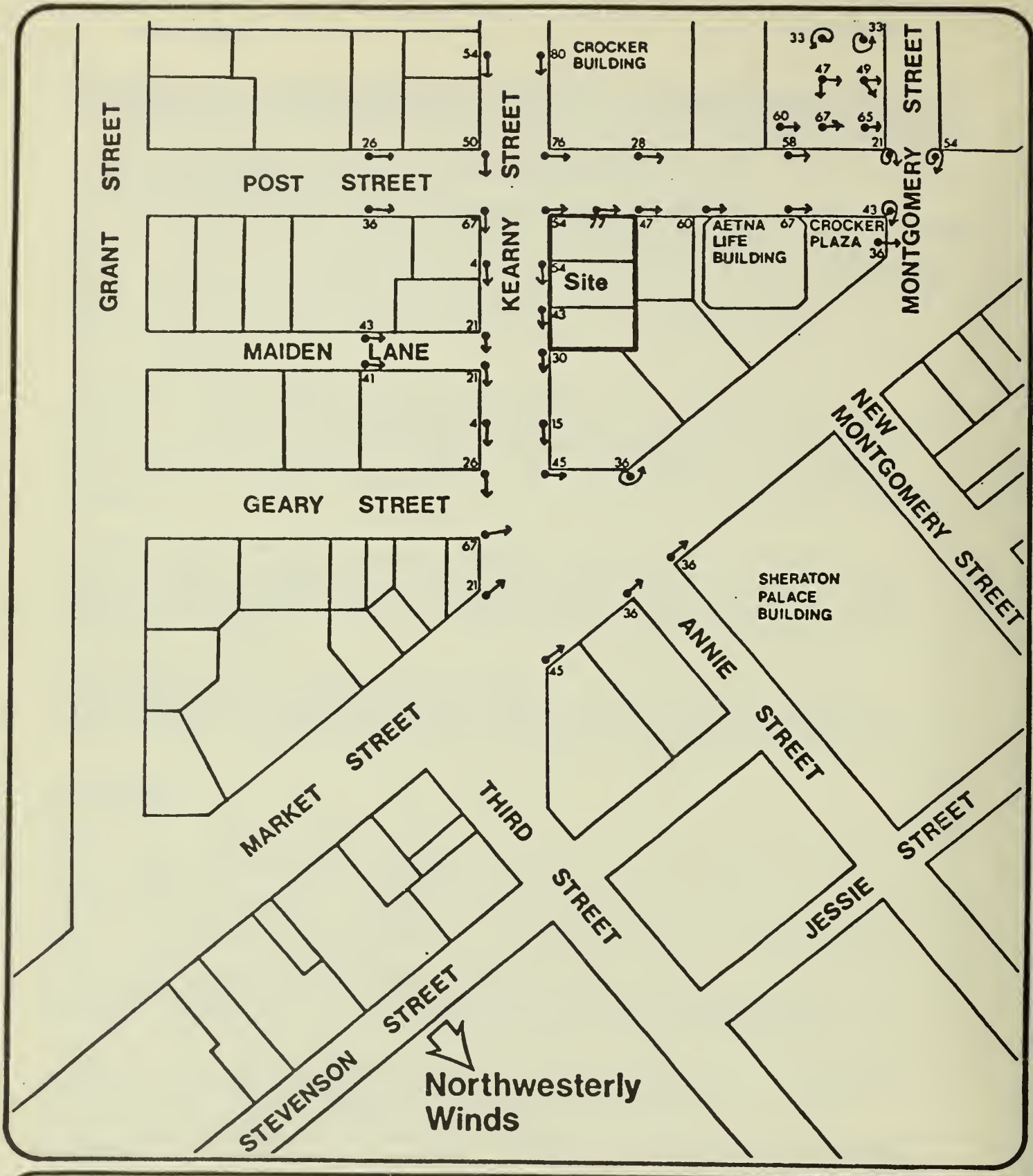


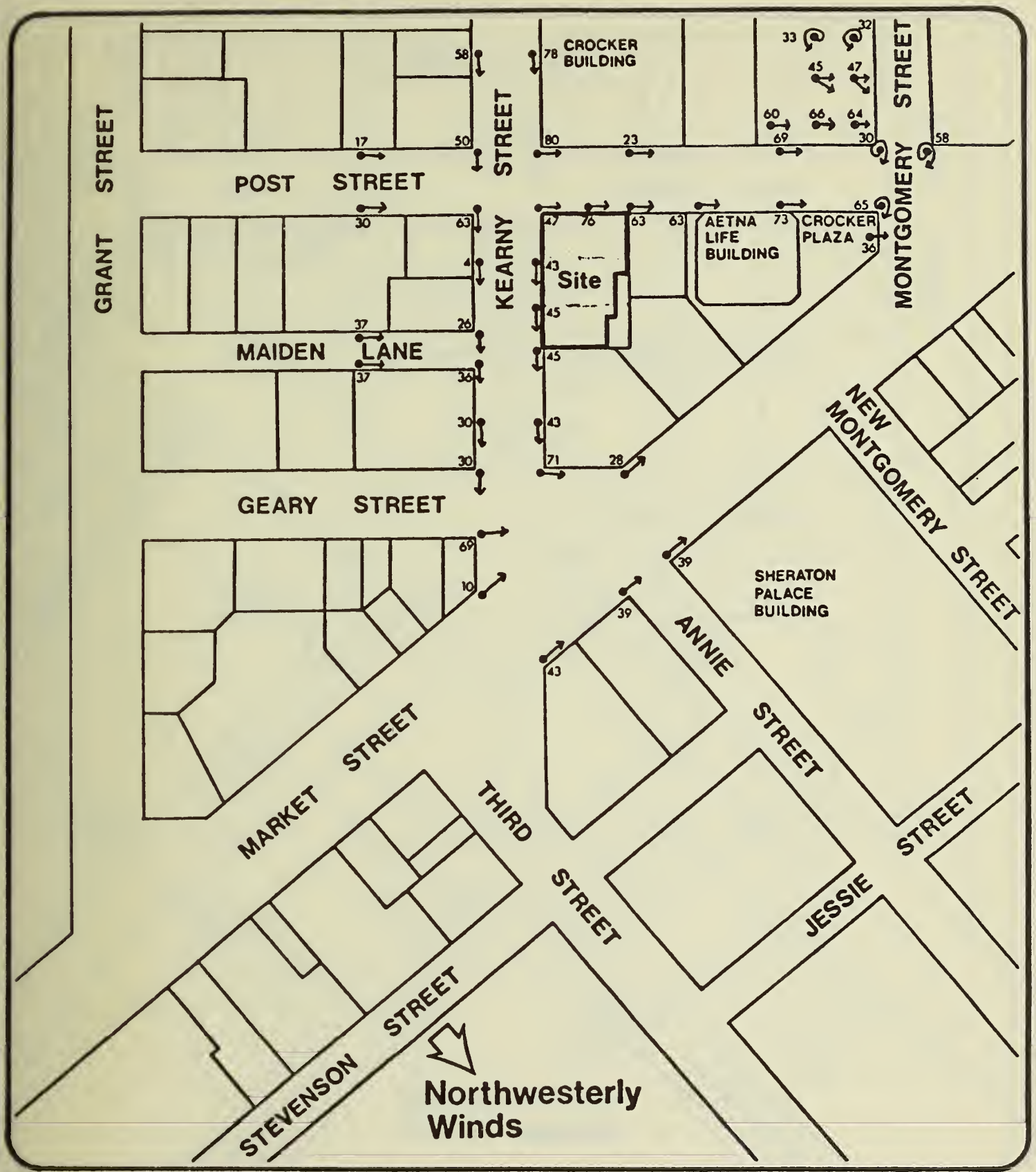
EXISTING SITE
NORTHWEST WINDS

North

0 50 100 200

Scale Feet

Figure No.1



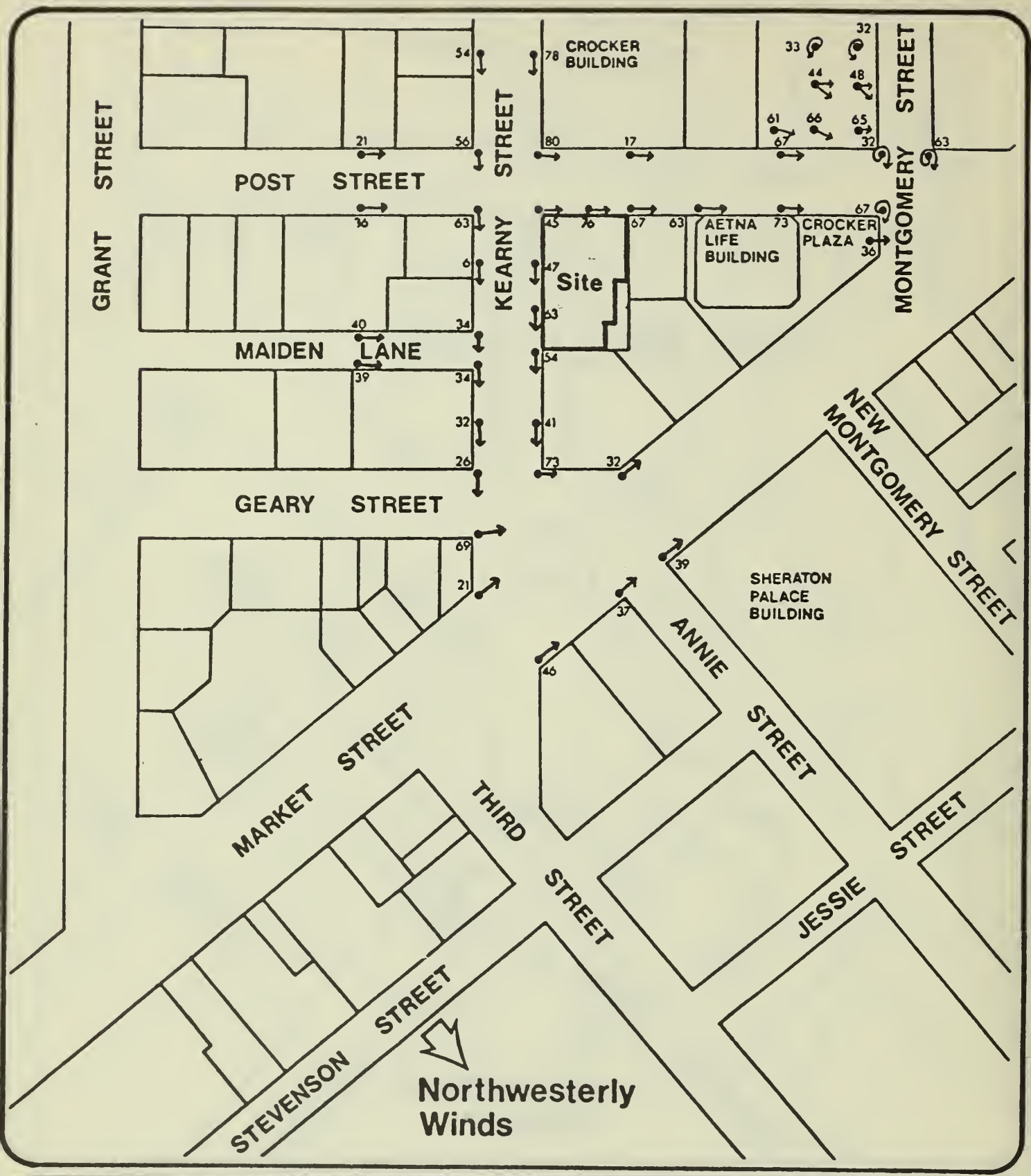
PROPOSED PROJECT
NORTHWEST WINDS

North

0 50 100 200

Scale Feet

Figure No.2



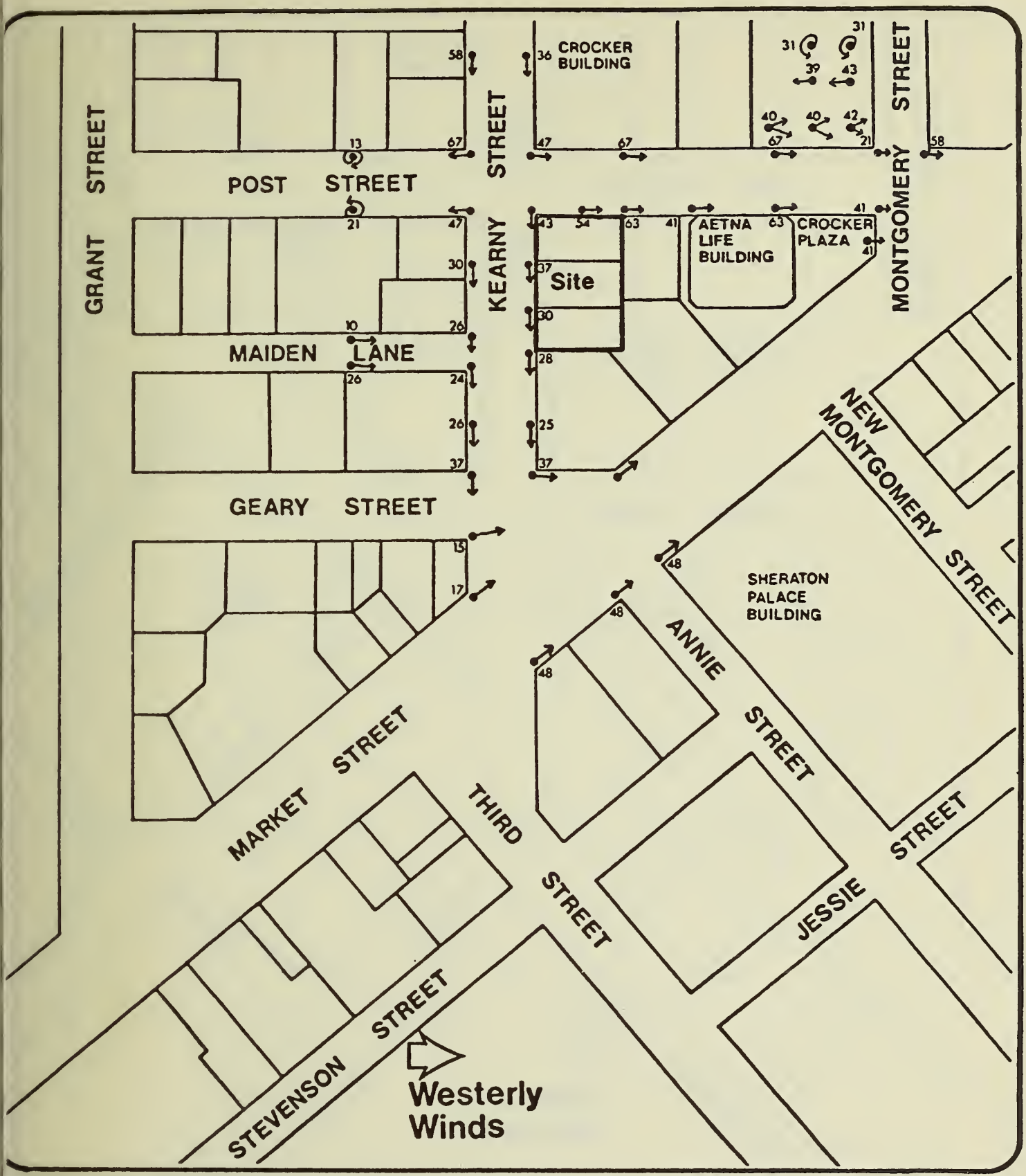
ALTERNATIVE PROJECT NORTHWEST WINDS

North

0 50 100 200

Scale Feet

Figure No.3



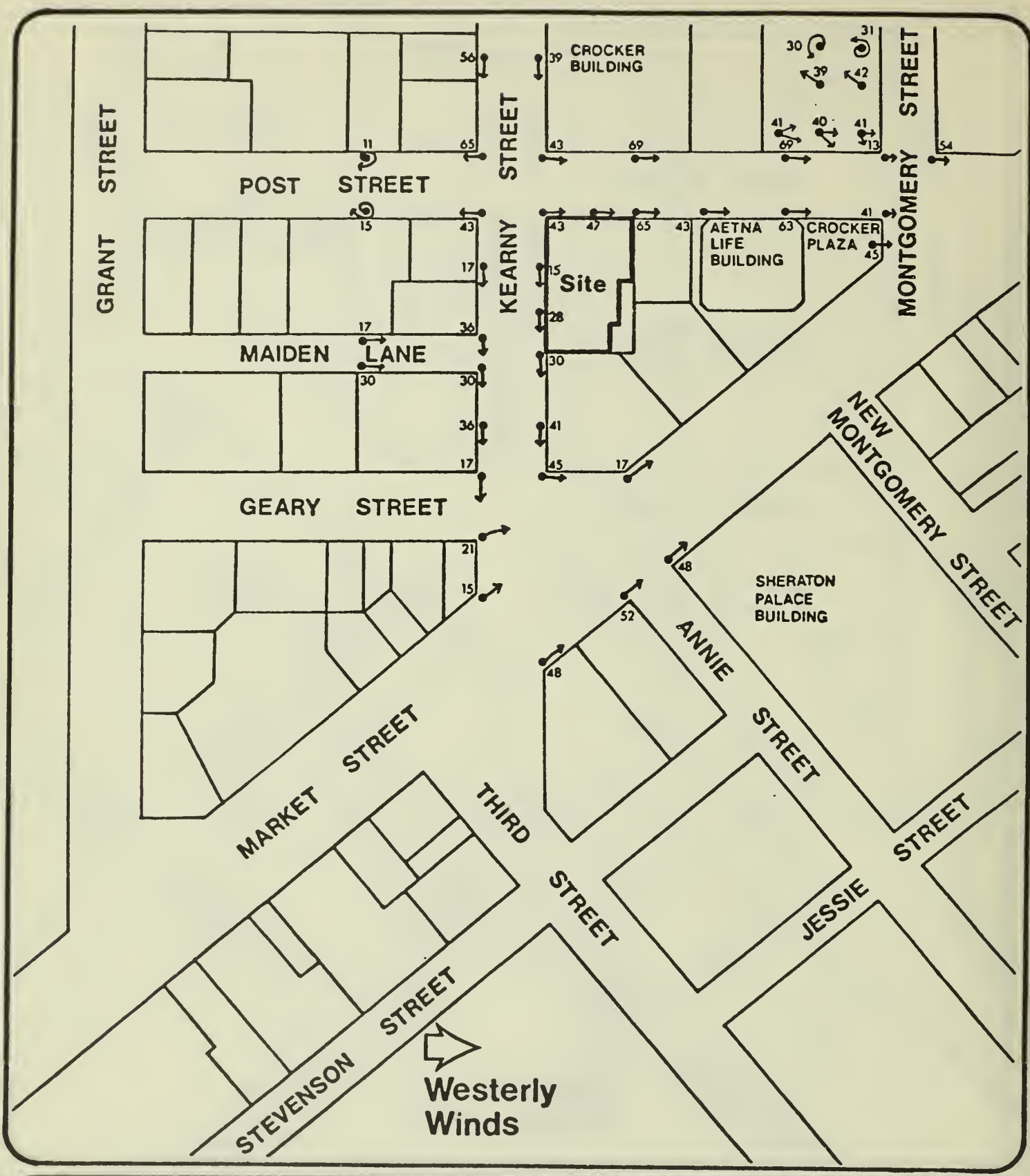
EXISTING SITE
WEST WINDS

North

0 50 100 200

Scale Feet

Figure No.4

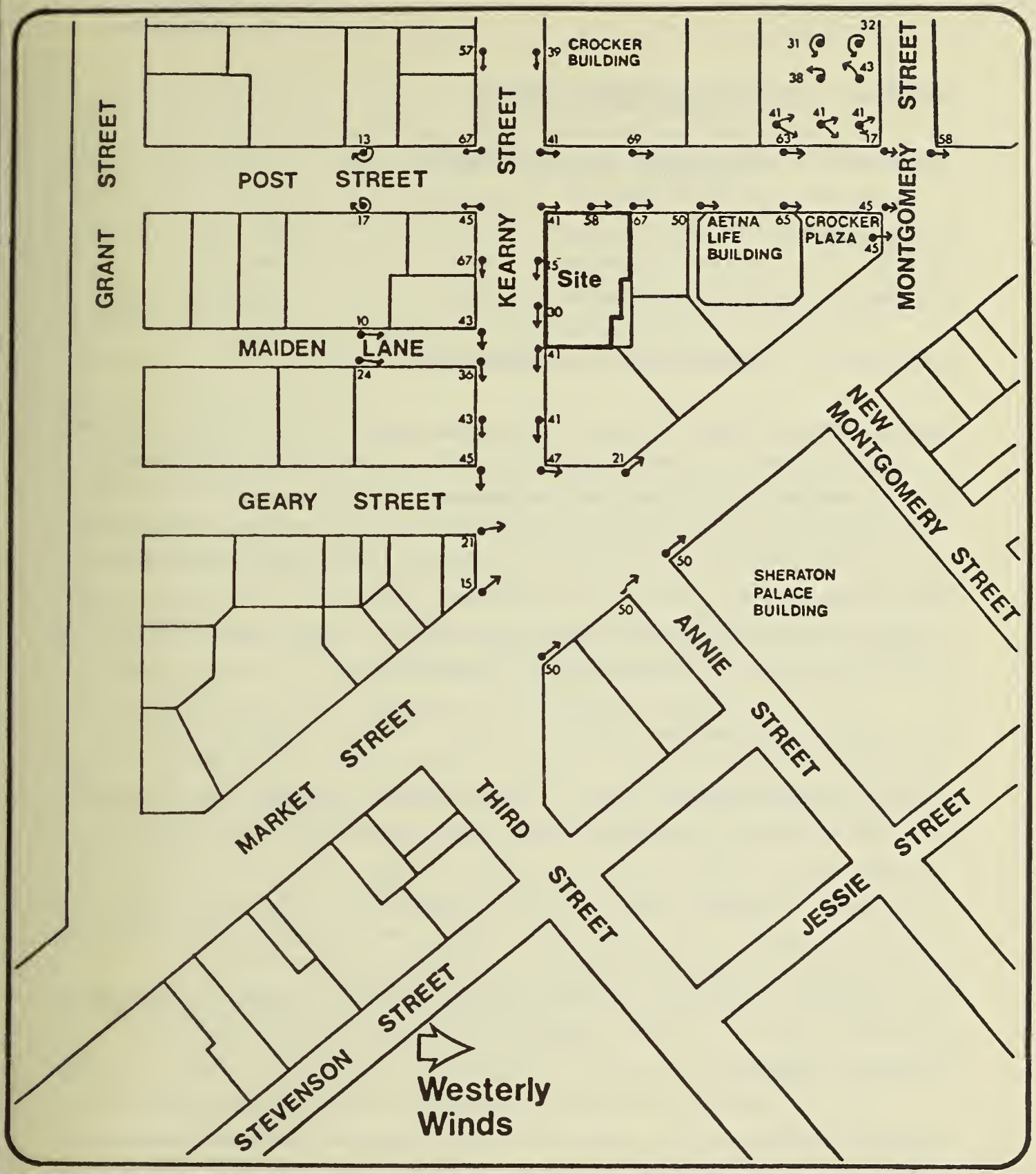


PROPOSED PROJECT
WEST WINDS

North

0 50 100 200
Scale Feet

Figure No.5



ALTERNATIVE PROJECT
WEST WINDS

North

0 50 100 200

Scale Feet

Figure No.6

APPENDIX C: CULTURAL AND HISTORIC ASPECTS

APPENDIX C-1: ARCHITECTURAL EVALUATION SURVEYS

The Architectural ratings discussed in the text of this report (see Section III.B., Cultural Resources; and Figure 11, p. 32) represent the results of two separate architectural surveys:

SAN FRANCISCO DEPARTMENT OF CITY PLANNING SURVEY

Between 1974 and 1976, the San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians assisted in the final determination of ratings for the 10,000 buildings which were entered in an unpublished 60-volume record of the inventory. The rated buildings have been represented on a set of color-coded maps which identify the location and relative significance of each building surveyed. The maps are available for public inspection at the Department of City Planning.

The inventory assessed the architectural significance of the surveyed structures from the standpoint of overall design and particular design features. Both contemporary and older buildings were included, but historical associations were not considered. Each building was numerically rated according to its overall architectural significance. The ratings ranged from a low of "0" to a high of "5". Factors considered included architectural significance, urban design context, and overall environmental significance. The architectural survey resulted in a listing of the best 10% of San Francisco's buildings. In the estimation of the inventory participants, buildings rated "3" or higher represent approximately the best 2% of the City's architecture.

HERITAGE SURVEY

More recently, the Foundation for San Francisco's Architectural Heritage, through its consultants, Charles Hall Page & Associates, Inc., conducted an architectural and historical survey of all downtown structures. In 1979, the

inventory results were published in the book Splendid Survivors. Criteria considered in rating the buildings include Architectural Significance and Negative Alterations. Summary ratings from "A" to "D" were then assigned to each building on the basis of these scores. The summary ratings indicate the following:

A. Highest Importance. Individually the most important buildings in downtown San Francisco. All "A" group buildings are eligible for the National Register and have highest priority for City landmark status.

B. Major Importance. Buildings which are of individual importance by virtue of architectural, historical, and environmental criteria. "B" group buildings may be eligible for the National Register. The Landmarks Preservation Advisory Board considers "B" buildings also to have highest priority for City landmark status.

C. Contextual Importance. Buildings which are distinguished by their scale, materials, compositional treatment, cornice and other features. Many "C" group buildings may be eligible for the National Register as part of historic districts.

D. Minor or No Importance. Buildings which are insignificant examples of architecture. Most "D" group buildings are "sites of opportunity."

NOT RATED. Buildings which have been built or suffered insensitive exterior remodelings since 1945.

ARCHITECTURALLY AND/OR HISTORICALLY SIGNIFICANT BUILDINGS IN THE DOWNTOWN

On May 29, 1980, the City Planning Commission by Resolution No. 8600 adopted a list of architecturally and/or historically significant buildings in the Downtown area, based on the above described surveys. The purpose of the list is to advise developers and building owners of the importance the City places upon their conservation and to require special review by the Commission of any plans which would affect any building or buildings on such list. As noted in Section III.B., two buildings on the project site are included on this list.

APPENDIX C-2: ARCHITECTURAL CHARACTERISTICS OF BUILDINGS ON THE PROJECT SITE AND BLOCK

BUILDINGS ON PROJECT SITE

Two of the five buildings on the site were rated "B" by the Heritage survey (see Appendix C-1) and were rated also by the Department of City Planning inventory completed in 1976 (see Appendix C-1). These buildings, whose locations and ratings are shown in Figure 2, p. 11, are described below.

48-52 Kearny Street, Maskey Building

This six-story building was designed by Havens and Toepke and was completed in 1908. It is a steel frame structure clad in white glazed terra cotta. The building has a Renaissance-Baroque ornamentation which Heritage describes as bordering on Art Nouveau. The Tiffany-like, leaded glass transom windows of the ground floor stores are largely intact as is the interior of the store which served as the principal downtown sales shop for Maskey Candies until that firm's demise in the late 40's. The glass includes the once famous mask and key logo which identified the candymaker. (Rated "B" by Heritage and "3" by the Department of City Planning.)

60 Kearny Street, formerly Bullock and Jones Co. Builiding

This six-story building, now occupied by the San Francisco Federal Savings & Loan Association, was designed by Julius E. Kraft in 1907. It has a three-part vertical composition with Renaissance-Baroque ornamentation. The cornice has been removed in compliance with the City parapet ordinance. (Rated "B" by Heritage and "1" by the Department of City Planning.)

Other Buildings on Project Site

The other three buildings on the site--79 Post St. and one between 52 Kearny and 60 Kearny which have been merged with the 52 and 60 Kearny St. buildings, and a three story restaurant building south of 48 Kearny St. have not been rated.

OTHER BUILDINGS ON PROJECT BLOCK

57-65 Post Street, Mechanics' Institute

This nine-story building, bordering the project site on the east, was designed by Albert Pissis in 1909. The lower floors are occupied by the Club library and related facilities and the upper floors by offices. The building is a steel frame structure with brick curtain walls. The Post St. facade has Renaissance-Baroque ornamentation. (Rated "A" by Heritage and "3" by the Department of City Planning.)

660 Market Street

This five-story building was designed by Lewis Hobart in 1924 and is a steel frame office building clad in terra cotta. Its ornamentation is modified Gothic. (Rated "B" by the Heritage and "2" by the Department of City Planning.)

690 Market Street (former Chronicle Building)

This structure was designed by the Chicago firm of Burnham and Root in 1889. It was the first iron and steel frame building in the West and the tallest in the City when built. Gutted by the fire that followed the 1906 earthquake it was restored and enlarged by Willis Polk retaining its Romanesque Chicago design. In 1962 a metal skin was applied to the building in an effort to update its appearance. (Not rated by Heritage, but if restored would be "a strong 'A' group building." Not rated by the Department of City Planning.)

600 Market Street, Aetna Building at Crocker Plaza

Designed by Welton Becket and Associates in 1969, this 38-story building is the tallest in the project block. (Not rated by Heritage; rated "4" by the Department of City Planning.)

TABLE D-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO AS OF NOVEMBER, 1981*

Year	Total Gross Sq. Ft. Completed	5-Year Total	5-Year Annual Average	Cumulative Total	All Office Buildings
Pre-1960				28,145,000*	24,175,000**
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
		2,866,000	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000***
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	--				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	(42,048,000)
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	--				
1979	2,532,000				
		8,157,000	1,631,000		
1978-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981	3,138,000			57,340,000	53,369,000
Under Construction 82/84	5,600,000	10,022,000	2,004,000		
1980-1984		(9,020,000)	(1,804,000)	62,380,000	58,409,000
Approved Projects	3,113,000			65,182,000	61,211,000

* S.F. Downtown Zoning Study - Working Paper No. 1, January 1966, Appendix, Table 1, Part 1. For pre 1965, includes the area bounded by Vallejo, Franklin, Central Skyway, Bryant and The Embarcadero. Also includes 1/3 of mixed use retail/office. For post 1964, includes the entire city.
** Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the January 1966 report. For post 1964, the entire area east of Franklin is included.
*** Net equals 90% of gross. Net new space is added at an increase factor of 90%, since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.

SOURCE: Department of City Planning

	Residency of S.F. Office Employees*	Net** Project Demand in 1985		Cumulative Demand 1979 to 1985+		Net Housing Stock Growth 1980-1985 +	Project Demand as % of Growth 1980 to 1985
	Percent	No. Emp.	No. Households***	No. Emp.	No. Households	No. Units	Percent
San Francisco	40	220	125	31,000	17,200	5,000 to 8,000	1.5 to 2.4
Peninsula (San Mateo and Santa Clara Cos.)	18	100	65	13,200	8,800	75,000	.1
East Bay (Alameda and Contra Costa Cos.)	30	165	110	24,000	16,000	41,000	.2
North Bay (Marin and Sonoma Cos.)	12	65	45	9,300	6,200	25,000	.1
TOTAL	100	550	345	77,500	48,200	146,000 to 179,000	.2

* Weighted average of expected employees from Federal Reserve Bank Final EIR (EE 78.207) certified June 14, 1979, 101 California Street (EE 78.27) certified August 9, 1979, Pacific Gateway Final EIR, (EE 78.61) certified July 26, 1979, and Crocker National Bank Final EIR (EE 78.298) certified July 26, 1979, from 456 Montgomery Street Final EIR (EE 79.178) certified Februrary 14, 1980, p. 167.

** Net housing demand by the project includes the additional 20 San Francisco Federal employees who are expected to be added to San Francisco Federal's work force during the two-year construction period.

*** Projected housing demand was based on a formula, (gross square footage of office space divided by 250 gross square feet of office space per employee multiplied by 0.22%), which was developed by the Department of City Planning in a memorandum entitled "Housing Requirements for Office Development in San Francisco, July 1981. Projections of the number of households in other regional counties was calculated using the net change in employment rather than the net change in office space, and 1.5 employed adults per household rather than 1.8. All projections are rounded to the nearest 5.

+ Based on projected San Francisco housing demand created by downtown office development, in Sedway/Cooke, October 1979 Downtown San Francisco Conservation and Development Planning Program, Phase 1, pp. 47, 48. San Francisco growth estimates are based on ABAG, January 1980, San Francisco Bay Area Housing Activity Report, Number 2, and on Mary Schlosser, Research Analyst, Population Research Unit, California Department of Finance, telephone communication, August 13, 1980. Other housing market estimates are based solely on Department of Finance data. Growth rates are based on averaged rates (San Francisco 0.3 to 0.5%, Peninsula 2.2%, East Bay 1.2% North Bay, 2.5%.)

SOURCE: Environmental Science Associates, Inc.

APPENDIX E: TRANSPORTATION, CIRCULATION AND PARKING

TABLE E-1: VEHICULAR LEVELS OF SERVICE

Level of Service	Description	Volume/Capacity* (v/c) Ratio
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	less than 0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at level of service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.00+

* Capacity is defined as Level of Service E.
Source: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering

TABLE E-2: PEDESTRIAN FLOW REGIMEN

Flow Regime	Walking Speed Choice	Conflicts	Flow Rate Average	(P/F/M)* Platoon
Open	Free Selection	None	0.5	0.5
Unimpeded	Some Selection	Minor	0.5-2	
Impeded	Some Selection	High Indirect Interaction	2 - 6	0.5-6
Constrained	Some Restriction	Multiple	6 - 10	6 - 10
Crowded	Restricted	High Probability	10 - 14	10 - 4
Congested	All Reduced	Frequent	14 - 18	14 - 18
Jammed**	Shuffle Only	Unavoidable	18	

* P/F/M = Pedestrians per foot of sidewalk width per minute.
** For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown. Based on counts taken on Wednesday, April 29, 1981.

SOURCE: Pushkarev, Boris and Jeffry M. Zupan, "Urban Space for Pedestrians", Cambridge, MA. MIT Press, 1975.

TABLE E-3: PEAK 15-MINUTE PEDESTRIAN VOLUMES IN 1981
(PROJECT SIDE OF STREET)

Sidewalk	Effective* Width	Volume** A.M.	NOON	P.M.	Flow Rate*** A.M.	NOON	P.M.	Pedestrian Flow Regime+ A.M.	NOON	P.M.
Post St.	10.0 ft.	290	470	200	1.9	3.1	1.3	Unim	Impd	Unim
Kearny St.	10.0 ft.	190	300	315	1.3	2.0	2.1	Unim	Unim	Impd

* Actual width on Post St. is 15 ft., and on Kearny St. is 14 ft. Effective widths take account of poles, planter boxes, people standing at store windows, etc.
** Pedestrians per 15 minutes.
*** Pedestrians per minute per foot of sidewalk width.
+ Abbreviations are the following:
Unim = Unimpeded; Impd = Impeded
See Appendix E, Table E-2 for definitions and volume criteria.

SOURCE: TJKM

TABLE E-4: EXISTING P.M. PEAK MUNI RIDERSHIP AND LOAD FACTORS

Line	Passenger Count*	Seating Capacity	Maximum Capacity**	Load Factor
1	400	300	450	.89
1X	613	500	750	.82
2	572	400	600	.95
3	511	350	525	.97
4	235	250	375	.63
5	986	850	1,275	.77
6	500	450	675	.74
7	327	300	450	.73
8	658	750	1,125	.59
9	531	500	750	.71
11	676	500	750	.90
12	487	350	525	.93
14	1,215	850	1,275	.95
14GL	253	200	300	.84
14X	655	450	675	.97
15	887	650	975	.91
16X	540	500	750	.72
17X	260	250	375	.69
21	660	550	825	.83
25	495	400	600	.77
27	158	200	300	.53
30	1,067	950	1,425	.75
30X	822	650	975	.84
31	498	350	525	.95
31X	569	450	675	.84
38	989	750	1,125	.88
38L	656	450	675	.97
38aX	503	400	600	.84
38bX	194	200	300	.65
40X	321	350	525	.61
42	230	200	300	.77
45	615	450	675	.91
55	1,456	1,100	675	.88
66	186	250	375	.50
71	379	250	375	1.01
72	276	200	300	.92
J	798	780	1,235	.65
K***	3,119	1,768	3,900	.80
N	2,050	1,376	2,400	.85

* Passenger counts are existing p.m. peak hour (4:30 to 5:30) figures for October, 1980 listed in Table 3 of Attachment III of the Department of City Planning Guidelines.
**Capacity is based upon 150% of seating capacity multiplied by the number of existing p.m. peak hour (4:30 to 5:30) runs.
*** Department of City Planning statistics include the L and M in data for the K line.
SOURCE: TJKM

TABLE E-5: EXISTING PEAK HOUR TRANSIT RIDERSHIPS AND CAPACITIES
(Selected Routes;* Peak Direction Only)

	Riders	Vehicles	Capacity+ Seated	Capacity+ Total	% Occupancy Seated	% Occupancy Total	Peak
BART:							
TransBay	10,500	122**	8,780	13,180	120	80	p.m.
Westbay	6,360	89**	6,410	9,610	99	66	p.m.
A-C Transit	9,130	199	9,990	12,490	91	73	p.m.
SamTrans	970	18	850	1,060	115	91	p.m.
So. Pacific RR	4,395	9***	11,000	11,000	40	40	p.m.
Golden Gate Transit							
Motor Coach	5,050	122	5,470	6,710	92	75	a.m.
Ferry	1,070	3	1,410	2,075	76	52	p.m.

* SamTrans: 7F, 7B, 5M, 7R;
A-C Transit: A,B,BX,C,CH/CB,E,EX,F,FSG/FX,G,H,K,KH,L,LX,N,NX,O,OX,R/RH,RD/RF/RCV,S,SW,V,W,Y.

** BART data is on a per car basis. Fourteen trains ran in each direction in the peak hour. Eastbound there were 7 Concord trains (average 10 cars per train); 4 Fremont trains (average 10 cars per train); and 3 Richmond trains (average 4 cars per train).

*** Number of trains assuming 10 cars per train to reflect available rolling stock. Actual number of cars per train is less than 10.

+ Capacity has been calculated based on the following per-vehicle capacities:

	Seated Passengers	Total Seated and Standing Passengers
BART	72	108
A-C Transit	48	60
SamTrans	47	59
Southern Pacific	100/150	100/150
Golden Gate Transit Motor Coach	45	55
Sausalito Ferry	400	575
Larkspur Ferry	510	750

SOURCES: TJKM and public agencies and personnel indicated on p. 189.

TABLE E-5 SOURCES: Publicly available data was supplied by the agencies and personnel indicated below.

Agency	Data	Personnel	Date
BART	Data Acquisition System Representative Day	W. Belding Sr. Economic Analyst	20 March 1981
A-C Transit	Schedule Checks on Various Weekdays in 1981	Kay More, A-C Transit	21 May 1981
Samtrans	Maximum Load Point Schedule Check	TJKM Program	19 May 1981
Southern Pacific Railroad	Yearly Account, File Ap-191 (October 1980)	R. Rodell Acting Manager Commute Service	19 May 1981
Golden Gate	Monthly Reports	A. Zahradnik	25 March 1981

TABLE E-6: PROJECT TRAVEL DISTRIBUTION AND MODAL SPLIT

	OFFICE/RETAIL					
	Work Travel (57%)			Other Travel (43%)		
Geographic Area	Geog. %	Mode	%	Geog. %	Mode	%
San Francisco						
Dwntn/Northeast (E of Van Ness, N of Market to the Embarcadero, S of Market to 101)	7.0	Auto	9.0	19.0	Auto	30.0
		Muni	61.0		Muni	50.0
		BART	1.0		BART	10.0
		Walk	29.0		Walk	10.0
Northwest (Richmond,Marina Western Addition)	15.0	Auto	31.0	17.0	Auto	55.0
		Muni	69.0		Muni	45.0
Southwest (Sunset,Parkside, Ingleside,Excelsior, Twin Peaks, and Upper Market)	13.0	Auto	29.0	12.0	Auto	55.0
		Muni	62.0		Muni	36.0
		BART	9.0		BART	9.0
Southeast (Potrero Hill, Bayview, Hunters Point, East and South of 101)	5.0	Auto	26.0	13.0	Auto	50.0
		Muni	52.0		Muni	40.0
		BART	22.0		BART	10.0
Peninsula (San Mateo and Santa Clara Counties)	18.0	Auto	44.0	13.0	Auto	80.0
		Muni	3.0		Muni	0.0
		BART	19.0		BART	0.0
		SamT	7.0		SamT	3.0
		SPRR	27.0		SPRR	17.0
East Bay (Alameda and Contra Costa Counties)	30.0	Auto	33.0	16.0	Auto	80.0
		BART	37.0		GGTB	11.0
		A-C	30.0		A-C	9.0
North Bay (Marin and Sonoma Counties)	12.0	Auto	58.0	10.0	Auto	73.0
		GGTB	35.0		GGTB	19.0
		GGTB	7.0		GGTB	8.0

SOURCE: TJKM

TABLE E-7: BUILDINGS INCLUDED IN THE CUMULATIVE TRANSPORTATION ANALYSIS

The buildings which were elements of the cumulative transportation analysis are in or near the Downtown Business district and are listed below by their Office of Environmental Review EIR file number and name.

74.253	444 Market: Shaklee
77.164	Pacific Bldg. III - Apparel Mart
77.256	Levi's Plaza
78.27	101 California
78.207	Federal Reserve Bank
78.298	1 Montgomery: Crocker Tower
78.334	1 Sansome
---	Embarcadero 4
78.413	150 Spear Street
79.57	DAON Building (Battery & Sacramento)
79.169	The Pacific Lumber Bldg. (Washington & Sansome)
79.178	456 Montgomery
79.196	315 Howard
78.61	Pacific Gateway
80.26	101 Montgomery
80.268	Five Fremont Center*
79.236	101 Mission*
80.171	Hotel Ramada*
79.257	Tower II, Hilton Hotel*
79.283	Holiday Inn*
80.57	25 Jessie St (neg. dec.)*
80.355	One New Montgomery Place*
81.25	1155 Market St.*
81.244D	China Basin*
80.349	Spear Main*
81.61	135 Main*

* These projects are not contained on Attachment 2 (October 1980) to "Guidelines," and were included at the request of the Office of Environmental Review, San Francisco Department of City Planning.

SOURCE: TJKM

APPENDIX F: AIR QUALITY

TABLE F-1: SAN FRANCISCO AIR POLLUTANT SUMMARY 1978-1980

STATIONS: 939 Ellis Street and 900 23rd Street, San Francisco*

POLLUTANT:	STANDARD	1978	1979	1980*
OZONE (O_3) (Oxidant)				
1-hour concentration (ppm /a/)				
Highest hourly average	(0.08) 0.12 /b,c/	0.11	0.08	0.09
Number of standard excesses		(4) 0	0	0
Expected Annual Excess/c/		0.3	0.0	0.0
CARBON MONOXIDE (CO)				
1-hour concentration (ppm)				
Highest hourly average	35 /b/	17	20	10
Number of standard excesses		0	0	0
8-hour concentration (ppm)				
Highest 8-hour average	9 /b/	9.4	13.8	7.5
Number of standard excesses		1	2	0
NITROGEN DIOXIDE (NO_2)				
1-hour concentration (ppm)				
Highest hourly average	0.25 /d/	0.30	0.16	0.17
Number of standard excesses		4	0	0
SULFUR DIOXIDE (SO_2)				
24-hour concentration (ppm)				
Highest 24-hour average	0.05 /d/	0.024	0.034	0.018
Number of standard excesses/e,f/		0	0	0
TOTAL SUSPENDED PARTICULATE (TSP)				
24-hour concentration (ug/m^3 /g/)				
Highest 24-hour average	100 /d/	128	117	173
Number of standard excesses/f/		1	1	6
Annual concentration (ug/m^3)				
Annual Geometric Mean	60 /d/	42	42	52
Annual standard excess		No	No	No
LEAD				
Calendar quarter concentration (mg/m^3)				
Highest quarterly average	1.5 /b/	1.19	0.95	0.53
Number of standard excesses		0	0	0

* In January 1980 all of the pollutant-monitoring functions of the 939 Ellis St. Station were transferred to the 900 23rd St. Station.

Table F-1 (continued)

/a/ ppm: parts per million.
/b/ National standard, not to be exceeded more than once per year (except for annual standards which are not to be exceeded).
/c/ The national ozone standard was revised from 0.08 ppm to 0.12 ppm in January 1979. The number of excesses shown in parentheses is of the old 0.08 ppm standard in effect at the time. Expected Annual Excess is a three-year average of annual excesses of the new 0.12 ppm standard.
/d/ California standard, not to be equaled or exceeded.
/e/ The sulfur dioxide standard is considered to be exceeded only if there is a concurrent excess of the state ozone or suspended particulate standards at the same station. Otherwise, the national standard of 0.14 ppm applies.
/f/ Number of observed excess days (measurements taken once every six days).
/g/ ug/m^3: micrograms per cubic meter.
SOURCE: BAAQMD, 1978 - 1980, Contaminant and Weather Summaries.

APPENDIX G: ENERGY

TABLE G-1: BUILDINGS INCLUDED IN THE COMPARATIVE ENERGY ANALYSIS

Downtown buildings which were used in the comparative energy analysis are listed below by their Office of Environmental Review EIR file number and name.

78.61	Pacific Gateway
78.27	101 California
78.207	Federal Reserve Bank
78.298	1 Montgomery (Crocker Tower)
79.57	DAON Building (Battery & Sacramento)
79.178	456 Montgomery
79.236	101 Mission
80.26	101 Montgomery
80.268	Five Fremont Center
80.349	Spear/Main

SOURCE: Environmental Science Associates, Inc.